

THE CULTIVATOR:

A MONTHLY PUBLICATION, DEVOTED TO AGRICULTURE.

I KNOW OF NO PURSUIT IN WHICH MORE REAL AND IMPORTANT SERVICES CAN BE RENDERED TO ANY COUNTRY, THAN BY IMPROVING ITS AGRICULTURE.—Wash.

VOL. V.

NO. 3, WASHINGTON-ST. ALBANY, N. Y. MARCH, 1838.

NO. 1.

Conducted by J. BUEL, of Albany.

TERMS.—ONE DOLLAR per annum, to be paid in advance. Subscriptions to commence with a volume.

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The Cultivator is subjected to common newspaper postage. Price of the published volumes, 50 cents per vol. stitched—the four volumes bound together, \$2.75—bound in two volumes, \$3—the four vols. bound each separate, \$3.25.

THE CULTIVATOR.

TO IMPROVE THE SOIL AND THE MIND.

Our Fifth Volume.

Agreeable to our proposition, we commence our fifth volume upon an enlarged sheet, and at an advanced price. To the individual subscriber the advance in price is trifling, while the aggregate will enable us greatly to improve the utility of our paper; and of our disposition to do this, we give a substantial evidence in the outset, in the number and expensiveness of the cuts, and in the entire sheet of extra matter, containing the very interesting proceedings of the State Agricultural Society, and State Agricultural Convention, recently held in this city. By this extra sheet we incur an individual expense, to the printer alone, of five hundred and fifteen dollars. And we beg gentlemen of intelligence and candor, after they have carefully perused the thirty-two pages which we give to-day, to put to themselves the question—"Am I not likely to derive a benefit, in the management of my farm the coming year, from the information contained in these two sheets alone, greater, far greater, than the paltry amount of a year's subscription to the Cultivator?" If, as we believe, the response will be in the affirmative, we hope they will be induced, from a spirit of philanthropy and patriotism, to endeavor to extend these benefits to their friends and neighbors, by enlarging the sphere of our circulation.

The better to enable us to carry out our views of public usefulness, we invite the co-operation of our old and of new correspondents, particularly of such as can furnish us any thing new and useful, in their practice, in any of the departments of husbandry. Next to the satisfaction arising from honorable endeavors to promote our individual interest, is that which results from a consciousness of doing good to our neighbors, and to society at large: And it is by publishing our improvements in the great business which employs most of our population, that we make ourselves truly useful. There is no monopoly in the business of agriculture; there should be none; there can be none. The best requital we can make for distinguished benefits, resulting from an enlightened system of practice, is to tender to others a participation in the benefits which our better practice confers. It abstracts nothing from our enjoyments,—it adds to them—while it often contributes much to the stock of human comfort and public virtue. Acts of beneficence, though they may sometimes provoke the sneers of envy, are sure to receive the applause of the liberal and enlightened.

Agricultural Movements.

If we are permitted to judge from the spirit of our agricultural journals, and from the oral evidence which we daily hear of a like spirit among the people, we should consider this as the commencement of a new and auspicious era in the history of American husbandry. A disposition is every where manifested to enlighten, improve, and elevate our agriculture, and our agriculturists. In most of the states, geological surveys have been made, or are in progress. In several states, bounties are awarded for the culture of the mulberry and the production of silk. Maine gives a liberal bounty on the culture of wheat, from her state treasury; and a bill is now before the legislature of Massachusetts to pay a like bounty. Massachusetts has also made provision for an agricultural survey of the state, and a very able gentleman, Rev. H. Colman, has already devoted a year to the labor. A proposition is before the legislature of Maryland to establish agricultural schools. Kentucky is organizing a state board of agriculture, or state society; while our younger sisters, Ohio, Indiana, Illinois, Michigan, and

even one-year-old Wisconsin, from the spirit they are manifesting, seem determined not to be outdone in rural improvements, by the older states.

But let us come to New-York. The meetings of the State Society and State Convention are fraught with great public usefulness. The reports and other documents which we give to-day, abound in valuable information, and will be read with great interest. The subjects which they embrace are intimately interwoven with our prosperity. The matters to be reported upon at the next meetings are numerous and interesting; and from the character of the gentlemen to whom they are severally assigned—and the time allowed them to collect and mature their reports, we hazard little in saying, that they will furnish an invaluable fund of information in the practical business of our husbandry. There seemed to be in these meetings no shyness,—no diffidence—no doubt of the propriety of asking from the legislature, as matter both of expediency and right, an appropriation—a liberal appropriation—towards improving our soil, and the minds of those who are destined hereafter to cultivate it. Many of the members of the legislature partook in the deliberations of the convention, and accorded heartily in the measures which were there adopted.

A small matter set Right.

"The Conductor of the Cultivator has, however, given notice of his intention to enlarge that paper to the size of this sheet."

The above is quoted from the first number of the Monthly Genesee Farmer for the current year. Whether intended to be so understood or not, it would seem to imply, that the Monthly Genesee Farmer and the Cultivator, in its enlarged form, contain a like quantity of matter. We asked our printer to make an estimate of the quantity of matter in each, and he has given us the following as the result:

This number of the Cultivator contains, by printer's computation, 120,610 ems.
The first number of the Monthly Genesee Farmer contains, by like computation, 101,556 ems.

Difference in favor of Cultivator, 19,054 ems.

This balance, multiplied by twelve, the numbers in a volume, gives as the difference in a volume of each, 192,640 ems, equivalent to thirty pages of the Monthly Genesee Farmer—in favor of the Cultivator; and if we add the extra sheet which accompanies this, and which contains as much as twenty-two pages of the Monthly Genesee Farmer, the difference in matter, in the two papers, will amount to 52 pages in favor of the Cultivator, to say nothing of our great expense for cuts. We make this statement merely to set the matter right, without the least wish to charge our cotemporary with a wanton error; for, until he saw our sheet, which he could not have seen when he made the comparison, he could not judge correctly of the matter which it does contain. We would only say, he is not good at guessing.

Cultivator Premiums.

We have reason to believe, that the premiums which we offered in the first number of our last volume, have been productive of highly beneficial effects, not only as regards tillage crops, and the management of the dairy, but in reference to the construction of barns and other out-buildings. If the plans which we have published, and publish to-day, are not the best, they are certainly much better than are usually followed, and by directing the public attention to this branch of improvement, the result cannot but prove beneficial. Influenced by these considerations, we are induced to offer the following premiums for the coming year.

For the best plan of a farm dwelling-house, of stone, brick or wood, to cost from six hundred to two thousand dollars, a premium of twenty dollars.

For the discovery and publication of an effectual means of preventing the ravages of the grain-worm, fifty dollars.*

For the most profitable acre of Indian corn, ten dollars.

* Should the legislature offer a bounty for this discovery, this premium will be withdrawn, and the amount offered upon other objects. Should they not offer such bounty, we shall be glad to add to the fifty dollars such sums as other gentlemen may please to contribute, in order to make the amount more respectable.

For the second most profitable crop of Indian corn five dollars.

For the most profitable acre of ruta бага, ten dollars.

For the second best do, five dollars.

The plans for a dwelling-house must be accompanied by drawings of the elevation and ground plan, and must comprise estimates of expense of wood and brick or stone. The premium on the mode of preventing the ravages of the grain-worm will be withheld until the remedy has been satisfactorily tested. We shall require, in the tillage crops, the same details of expense, product and profit, as are embraced in the statements published in our last number, and where the competitor is a stranger, a like certificate of a magistrate as to his credibility. The large premiums will be paid in medals or plate, and those of five dollars in bound volumes of the Cultivator.

There is great room for improvement in the construction of our farm houses, both as regards economy and comfort. It is a subject well worthy the study of our architects; and if we can be a means of turning the public attention to the matter, the result cannot but be beneficial.

The New Husbandry.

We have been asked, and have promised, to explain, what we mean by the *New System of Husbandry*; and we now proceed to redeem our promise.

The system is new only comparatively, and in contradistinction to the old system, which is generally adopted in the first settlement of a country, in some degree as a matter of necessity; but which, being once established, is too often persisted in, with a reckless indifference to ulterior consequences, long after the necessity for it has ceased. This particularly happens in countries like ours, where new and virgin soils are continually inviting to emigration. What we denominate the new system, has long been in operation in the valley of the Po, in Italy,—indeed it seems to have been practiced there by the Romans, in the meridian of their greatness—and in Flanders,—and for the last half century in Great Britain; and it has, besides, for sometime, had many faithful followers in the United States. By the old system, we mean that which, generally speaking, has impoverished, and is still impoverishing, the soil on our Atlantic border, and which is already causing indications of premature exhaustion and poverty in some portions of the new west. "As much vacant land as this district contains" (says a late writer of East Virginia)—there is but little uncultivated [old fields] which, until enriched, will yield any clear profit. Therefore, Eastern Virginia, in its present state, is fully populated, and no increase can be expected, except from the improvement of the soil, and the consequent increased means of subsistence." This remark will hold good in many portions of the older states. By *New Husbandry*, we mean the art,—and to many yet a mystery—of progressively increasing the fertility and products of our soils, and the intrinsic value of our farms—and of thereby providing the means of subsistence for our increasing population.

There are no universal rules for doing this. Much depends upon climate, soil, and upon the distance and demands of the market. The products of the soil, as well as the demands for them, vary generally with latitude. Grain, pulse, roots, and grass, are the natural products of higher latitudes; rice, cotton, and tobacco, constitute the staples of more temperate regions; while the productions of the torrid zone vary from both of those before referred to. Though there are no definite rules of practice, that will apply to all, yet there are essential requisites to success that have a general application. These are capital, industry and perseverance, and knowledge to apply them wisely with effect, under the varied circumstances of climate, soil and market. Great success cannot be expected in any laudable undertaking, without persevering industry; and in regard to knowledge, the laws which govern matter, upon which our labors are to be expended, are the same every where; and we are endowed with capacities for investigating, comprehending and applying many of them in aid of labor—the profits of which are in a measure graduated by the intelligence which governs and directs it.

The New System of Husbandry, or the art of increasing the fertility and products of the soil, consists in

1. Manuring.
2. Draining.

3. Good Tillage.
4. Alternating Crops.
5. Root culture. And,
6. In substituting fallow crops for naked fallows.

Most of all these are necessary to good farming, according to soil, climate and location. They are the distinguishing traits of the new husbandry; and as they are practised with more or less fidelity and judgment, in that proportion are they likely to advance the condition of our agriculture, and to benefit the commonwealth.

These objects have become so hackneyed, from our repeated attempts to illustrate their bearing upon the prosperity of our country, that we almost despair of interesting our readers by what we have to offer; but as we labor in our vocation, and deem the matters in question of deep interest to the farmer, we shall again throw our seed abroad, trusting to the indulgence of our patrons, and in the hope, that, at least a portion of it may fall upon good ground, and yield a reasonable increase.

We intend to discuss the several subjects we have named, and shall endeavor to show the *why*, and the *how*, each of them tends to benefit the farmer, and to advance improvement in our husbandry. In the remarks we shall offer, it will be our endeavor rather to explain the principles upon which the new system is founded, and which have a common application, and to demonstrate their beneficial influence in husbandry generally, than to detail the minute of practice, which must, in some degree, ever be influenced and controlled by local causes.

I. MANURING.

The first requisite to improving the fertility of the soil, is plenty of food for the crop, which it is destined to nourish. The meal chest must be occasionally replenished, or it will not long serve to supply the wants of the family. The kine must have daily her forage, or her grain, or she will withhold her accustomed tribute of milk. The field which yields an annual contribution to the husbandman, will become sterile, if nothing is returned to replace the crops annually carried off. Philosophers have speculated for ages, as to *What constitutes the food of plants?* Without recapitulating the various theories which have had their day, upon this point, every farmer can readily respond to the question, from personal knowledge—that it is *MANURE*—vegetable and animal matters,—which constitute the true food of farm crops. Mineral, fossil and earthy substances, may meliorate the soil, and increase its capacities for the healthy development and maturity of plants—or may impart wholesome stimuli to the organs of plants themselves,—but vegetable and animal substances, after all, constitute mainly the elementary food of plants: Crops are always good, on well prepared grounds, when these, in a soluble state, are known to abound; and they are always defective, or prove a failure, when these are wanting. Farmers should hence regard manure as a part of their capital—as money—which requires but to be properly employed, to return them usurious interest. They should husband it as they would their cents, or shillings, which they mean to increase to dollars. They should economise every animal and vegetable substance on the farm, and when it has subserved other useful purposes, apply it, by mixing it properly with the soil, to the increase of the coming harvest—put it to interest, that it may return the owner its per centage of profit, in grain, roots and forage, and ultimately in the increase of meat, and in the products of the fleece and dairy. Every load of manure, well applied to the farm, will increase its products to the value of one dollar. The farmer, therefore, who wastes a load of manure, is as reckless and improvident, as he who throws away a bushel of corn, in these dear times. Not only what is denominated manure, as the contents of the cattle and hog yards, and the cleanings of the stable—the amount of which may be greatly increased, by stalks, weeds, vines, and other vegetable matters—may be transformed into farm produce—but the rich earth of swamps, ditches and waters, the leaves of the forest, urine, soap suds, &c., are all convertible to a like use. He that will not feed his crops with manure, should not complain if his crops fail to feed him with bread.

As the grain, roots and forage destined to feed the family, and the farm stock, require the best care of the husbandman, to prevent waste and injury, so does the manure which is destined to feed his crops. Fermentation, if suffered to exhaust its powers upon it, materially lessens its value; the wind and the sun dissipate its virtues, and rains leach it, and waste its fertilizing powers. The same care given to the food of vegetables which should be given to the food of animals, will be richly recompensed in the increased product of the harvest.

Lime, marl, gypsum and ashes, are all beneficially applied to increase fertility, under certain circumstances, which it is unnecessary for us here to particularize. Stiff clays are also benefitted, by the application of sand; light sands are improved by the admixture

of clay; while both clay and sand are improved by the addition of marl, or other calcareous substances.

If we contrast the common with the improved practice, in regard to the management of dung, we shall readily see, that the difference, in preserving the fertility of the soil, is incalculably great—enough to induce poverty in one case, and to enrich the proprietor in the other. Even the best class of our farmers, who are deemed judicious managers, seldom avail themselves of half the resources of fertility which their farms or neighborhoods afford—not half that are put in successful requisition by the farmers of Great Britain and Flanders. Besides, what manure they do make is in general badly husbanded. They suffer the gaseous portions to waste in the air, instead of being absorbed by, and enriching the soil; and the liquid to course down hill to the highway or the brook. But what shall we say of the mass of our farmers?—We have travelled hundreds of miles to the west, and seen great quantities of manure, in the yards and about the barns, often the accumulation of years, seemingly considered by the owners rather as an incumbrance, or a nuisance, than as a source of fertility and of wealth. In the new system of husbandry, the farmer's profits are in a measure graduated by the quantity of manure he is enabled to produce from his farm. In the first number of our fourth volume, we gave estimates, from high authorities, of the amount produced upon farms in Great Britain. Dr. Coventry, Agricultural Professor in the Edinburgh University, gives four tons of manure to each acre of straw manufactured by farm stock. A Berwickshire farmer, quoted by Sir John Sinclair, obtained four cart loads, of 30 to 35 cubic feet each, from every ox wintered upon straw and turnips. Meadow land is stated to produce from four to six tons of manure to the acre, and the available sources of fertility upon a farm are estimated to be sufficient to give a full supply of manure once in every course of the four year system of husbandry. Arthur Young, with six horses, four cows, nine hogs, and suitable litter, made 118 loads of dung, 36 bushels each, in a winter. Cattle fed with turnips are computed to make double the manure that those do which are fed on dry fodder alone; and an acre of turnips, with an adequate quantity of straw, has produced sixteen cart loads of dung. It will be readily perceived, that by this mode of management, ample means are provided for keeping up the fertility of the soil, when put under a four shift system of husbandry.

What now is the common quantity of manure under the old system? Taking our state, or our country at large, we are confident the average quantity which is judiciously applied, will not amount to one load an acre, and we are doubtful if it will amount to half a load. Can it be wondered, then, that under such reckless management, of returning to the soil only a quarter, or an eighth, of what we take from it, of the food of plants, that our lands should continue to grow poor, till they no longer yield a reward to culture?—The cultivated lands in this state are estimated at eight millions of acres. On the supposition that one half of them is appropriated to tillage and meadow—and this is a low estimate—we might produce and apply annually, under the new system of husbandry—and we ought to do so—sixteen millions tons of manure, worth to the country, at a low computation, sixteen millions of dollars;—whereas, we now produce, under the old system, certainly not more than four millions of tons—thereby suffering an annual loss, independent of the certain and constant diminution in the product and value of our lands, of twelve millions of dollars in the single item of manures! This is not a visionary speculation—it is sober truth—and we ask any intelligent man, to show, from facts, a less unfavorable conclusion.

We will merely remark here, in regard to the application of manures, that if used in an unfermented state, they should be buried with the plough, and applied to a hoed or autumn-ripening crop; if used in a rotted state, they may be blended with the surface, and applied to a summer-ripening crop. We will give our reasons for this practice. Manure fertilizes in two ways—by the gaseous matters which are evolved in fermentation, and which *rise*; and by liquid matters, which *sink*. If used before it has parted with its gases, manure should be buried, that the incumbent soil may imbibe these fertilizing elements. If the manure has been rotted, it has parted with its gaseous matters, and all its remaining fertilizing properties are liable to be carried down by the rains—hence this may be deposited near the surface. Again, fresh manures, even in a liquid form,* induce a rank growth of *herbage*; but they do not produce good plump *seed*. Hence if applied to common small grains, they cause

*Col. Le Courteur—(see Farmers' Magazine)—tried stable manure, and liquid manure, the latter diluted, upon his wheat. The grain tilted much, or gave a great growth of straw and grass; but the product in grain was diminished. When the liquid manure was applied a second time, by being poured upon the growing wheat, the straw was very rank; the plants produced only a few ears of wheat, and those were very defective in grain.

a great growth of *straw* at the expense of the *grain*: Fermentation being most rapid at midsummer, when the seed, and not the straw, requires the food. But the autumn-ripening crops, as corn, &c., are in that state, at midsummer, which requires strong food to perfect their stalks and leaves; and the fermentation of the manure has subsided before the *grain* matures in autumn. Fossil manures, as lime, marl, gypsum, are applied upon the surface, or buried superficially, because their disposition is to settle down, and they give off no gaseous food.

Individuals, it is true, are but units—yet the aggregation of units make millions, and the aggregation of individuals constitutes nations. We should all act as though individual example had an imposing influence upon the whole. In the matter which we have just discussed, every farmer may be assured, that by adopting our suggestions, he will unquestionably promote his own interest, and by his example, benefit society.

Analysis of Wheat.

Wheat is composed almost wholly of starch and gluten. It is the latter which gives grain a pre-eminent value, it approximating most to animal matter. Yet starch imparts to flour its greatest excellence in market. Summer wheat contains more gluten, ordinarily, than winter wheat. The wheat of cold latitudes contains more starch, and that of southern latitudes more gluten. The summer wheat of Italy is chiefly employed, at Naples, for macaroni, on account of the gluten with which it abounds, and which renders its paste peculiarly adhesive. Wheat ordinarily contains from eighteen to twenty per cent of gluten, according to Davy; while, according to Chaptal, rye affords but one per cent, barley from five to eight, and oats one to two. The more gluten there is in flour, the more readily it ferments, or rises in the dough trough; and if the gluten is destroyed, the dough turns sour by fermentation. Hence the nutrient quality of wheat is in some measure determined by the gluten it contains.

A friend having submitted several kinds of wheat to rather an imperfect analysis, with a view to determine the quantity of gluten in each, has given us the following as the result. All the specimens were submitted to a like process; and although the result may not indicate the *whole* of the gluten in either, the relative proportions are presumed to be accurate. Twelve grains of each were submitted to experiment.

Kinds of wheat.	Weight.	Gluten.
Italian, from Utica,	9 grains.	1½ grains.
Siberian,	9 "	1½ "
Tea, from Vermont,	8½ "	1 "
Common Spring Wheat, ...	8½ "	¾ "
Early May, from Virginia, ...	7 "	¾ "
Red River, from Galena, ...	8 "	¾ "
Egyptian, from Vermont, ...	10½ "	¾ "
Giant, from England,	10 "	none.

The only inference we would venture to draw from this analysis, is, that the Italian and Siberian wheat seem to be identical—and that even the tea wheat may be the same, differing in the quantity of its gluten only from the circumstance of its being grown in a higher latitude, so far as this test can be relied on.

Things which we Want.

We want, imprimis, stronger inducements to agricultural labor, through our public authorities, by means of a liberal policy of patronage, in bounties and rewards; and we want a stronger guarantee for recompense, in the establishment of a better system of practice.

We want more public, and less party spirit—more devotedness to the *state*, and the interests of the people at large, and less to local interests, individual cupidity, and personal aggrandizement.

We want more stimulus to individual effort, and less to joint stock companies. Men will be guilty of acts of injustice and oppression, in a corporate capacity, which they will be ashamed to commit on their individual responsibility. In the one case they do but *share*, and they generally contrive to shift on to others, the odium of a bad act. But alone, they have no subterfuge, no excuse.

We want, for our boys, who are destined to till the earth, scientific and industrial schools, that they may acquire, simultaneously, and in the scholastic period of life, a knowledge of the best practices in farming, and of the principles upon which it can now alone be judiciously and successfully conducted.

We want, in due time, an agricultural survey of the state, which shall collect and make known to all, the best practices in farming which prevail in each district—as also the labor-saving implements employed in each, and their relative usefulness, the breeds of domestic animals, products and profits of crops, new subjects of culture, &c.

We want more practical business men in our legislative halls as well as upon our farms—men of sound judgment and independent bearing—and who, though

they do not talk as much, can think and act as correctly and as promptly, as professional talkers; and who, knowing best the true interests of the mass of our population, are likely to do the least injury, if they do not do the most good.

We want a more extended circulation of agricultural periodicals—because they disseminate useful knowledge, stimulate industry, call into action latent genius, awaken laudable competition, induce general improvement, bring into exercise the noblest feelings of our nature, and inculcate good will to our fellow-man.

We want to have inculcated and taught, by precept and example, in our public halls, in our social circles, and in our schools, high and low, the great moral and political duty, of identifying our individual with the public interest, and of considering the one as in a great measure inseparable from the other.

ON OUR FARMS,

We want more system—more employment for our females, that they may be more healthy, more robust, and more serviceable to posterity—more contentment with our rural employments—a greater desire to increase our knowledge, to improve our practice, and to bring our sons up “in the way they should go”—as independent tillers of the soil.

We want more attention paid to augment our manures, the food of our farm crops, that our lands, instead of growing poorer every year, may increase in fertility, in products and in profits.

We want to understand, better than we do, the principles and the practice of draining, that much of our best land, now unproductive and noisome, may be rendered productive, profitable and healthy.

We want to extend the culture of roots and clover, as tending to perpetuate fertility, fatten cattle, furnish manure, and fill the granary.

We want the conviction that we can improve, the determination that we will improve, and we shall then soon become conscious that we have improved, in the management of our farms.

On the Improvement of Grass Lands.

Although the alternation of grass and grain crops is deemed most profitable, on soils and in situations which will admit of this kind of husbandry, yet there are many situations in which this alternate change cannot be carried into effect without manifest prejudice to the interests of the cultivator. There are some soils so natural to grass, as to yield an undiminished product for many years, almost without care or expense. There are others upon the banks of streams which frequently overflow, which it is prudent to keep in grass, lest the soil should be worn away by the rapid flood of the waters. Others again are too precipitous, or too stony, to admit of arable culture. Nor should we conceal the fact, that it is still a controverted point, whether rich stiff clays are not most profitable, when permanently appropriated to grass. Whatever causes prevail, the fact is indisputable, that a considerable portion of our lands are and will continue to remain in meadow and pasture. It is with the view to aid the farmer in correcting any defects that may exist in such grass grounds, and in improving and keeping them in condition, that we offer the following suggestions. And first,

OF PASTURE.

The evils that are experienced in pasture grounds, are, the gradual disappearance of the best grasses; the growth of mosses and weeds in their stead; and the prevalence of coarse herbage in situations where there exists a superabundance of moisture. Wherever there are stagnant waters, as upon flat surfaces, the pasture is rendered peculiarly unhealthy for sheep; but it is remarked, that if the water is in continued motion, as is generally the case upon the declivities of hills and mountains, no ill consequences follow.

To remedy the evils we have enumerated, and to improve the condition of pasture grounds, one or more of the following expedients may be advantageously resorted to, viz. sowing and harrowing in grass seeds, scarifying, bushing, draining, manuring, top-dressing with marl or lime.

Grass seeds may be sown either in the autumn or spring, followed by the harrow, and if practicable by the roller. The harrow partially extirpates the mosses, breaks and pulverizes the surface, and buries the seeds; and the roller presses the earth to the seeds, and smooths the surface. The bush harrow is to be preferred. This may be constructed by interweaving some strong, but pliant branches of trees, through the open squares of a heavy harrow, which thus forms an efficient brush, and when drawn over the ground performs its duty perfectly during a short distance; but the branches being pressed close, and worn by the motion, soon become so flat as not to have the effect of spreading the earth, thrown upon the surface by earth-worms or ground-mice or ants. It is therefore recommended in British Husbandry, as a better mode, to fix the branches upright in a frame, placed in the

front part of the carriage of the roller; by which means they can be so placed as to sweep the ground effectually, and when worn can be moved a little lower down, so as to continue the work with regularity. This operation also completely breaks and scatters the manure dropped on the field by the stock, and partially incorporates it with the surface mould.

Scarifying is cutting the sod and loosening the surface. Concklin's Press Harrow is a suitable implement for this purpose. We also subjoin the drawing of an implement constructed for this purpose, which we take from British Husbandry, calculated to be drawn by a one or two horse team. [See fig. 1.]

[Fig. No. 1.]



This implement is intended to cut the sod perpendicular, so far down as to sever the roots of the grass, which occasions it to throw out fresh roots. It slices the sod, without tearing it, and should be constructed with a number of very sharp coulters, fixed into a cross beam at such distances as may be thought advisable, from six inches to a foot, and of a width according to the strength intended to be employed in drawing it. The blades should be occasionally whetted to preserve their edge, and the implement should be used when the ground is in a moderate state of moisture, and the grass short. If the land is poor or moss bound, it may be passed crosswise. It is best adapted to moist clays, which do not contain stones or gravel. It is advantageously used to precede the sowing of grass seeds. The foot wheel is to regulate the depth of the work.

Draining improves the quality of the herbage, and marling or liming increases the quantity. It is remarked, that animal dung, when dropped on coarse pastures, produces little or no benefit, but when calcareous matters have been laid upon the surface, the finer grasses soon take possession of it.

Manures are seldom applied to pasture, especially with us; but applied in the form of compost, as a top-dressing, they are serviceable. Gypsum and spent ashes may be applied with undoubted benefit in most cases.

It need hardly be added, that bushes, thistles and other perennial weeds obstruct the growth of grass, and that they ought to be carefully extirpated.

Our pasture grounds are generally left to take care of themselves; but there is no doubt but some expense bestowed upon their improvement, in some of the modes above suggested, would be profitably laid out.

OF MEADOW.

The crop being here annually carried off, it becomes a matter of necessity, if the field is to be kept permanently in grass, to apply manure occasionally, if we would prevent a diminution of product. It is affirmed, that a perfectly thick bottom cannot be maintained on permanent meadows, in England, unless it is manured every second year. Gypsum will effect much here, upon dry soils, though there its effects are equivocal; but gypsum alone will not suffice here. The average product upon our old grass lands will hardly average over a ton and a half an acre. With a biennial or triennial top-dressing of dung or compost, where the sod is in good condition, it is believed the average would be double.

Meadows are subject to all the evils that are experienced in pastures, from mosses, wetness, and the diminution of the finer grasses, besides the greater exhaustion of fertility consequent upon carrying off the annual growth; and the same measures are best adapted to renovate them. Meadows are generally depastured after the hay has been taken off, and the rowen partially grown. “After the cattle have been removed,” says an English writer, “the land is bush harrowed and rolled.” It has been stated, though some question the fairness of the experiment, that the operation of heavy rolling has been found to add six or seven hundred weight of hay per acre to the produce of the crop.*

The effect of pasturing meadows in the spring, upon the coming grass crop, has been a matter upon which farmers have differed—though all agree that heavy cattle should not be kept on so late in autumn, or put on so early in spring, as to injure the sole of the sod, by poaching it when in a wet state. Mr. Sinclair has stated, that a given space of the same quality of grass having been cut towards the end of March, and another space of equal size left uncut until the last week in April, the produce of each having afterwards been taken at three different cuttings, that

of the space last cut exceeded the former in the proportion of three to two; and in one instance during a dry summer, the last cropped space exceeded the other as nearly two to one.* It is generally conceded, that it is better to feed off rowen, than to cut it as a second crop.

Preserve your best Animals for Breeding.

The complaint is general, at least throughout the eastern states, that the stock of neat cattle has been greatly diminished within a few years, and that prices have consequently advanced to an unprecedented pitch. And it is believed to be a general fault among farmers, that they sell their best young animals to the butchers. The season has arrived when it becomes the farmer to improve his practice in these matters. He should preserve his best animals for breeding; raise more stock, if his farm will permit, and substitute improved breeds, or at all events cross upon them.

He should preserve his best individuals for breeding.

For a dollar or two extra the farmer sells his best calf to the butcher; which, if kept as a breeder, would not only serve to improve his whole stock, but the individual thus sacrificed for a dollar or two, would in many cases, be worth, at the working or milking age, and with no extra expense of keep, ten, twenty, or fifty dollars more, than the poor calf rejected by the butcher, and which consequently serves as a breeder upon the farm, still further to depreciate the character of the farm stock. The farmer who breeds from poor or inferior animals, in a manner throws away capital. He who breeds only from select animals gets common interest. And he who breeds from select animals, of the choice breeds, gets compound interest. Choice working oxen, of four or five years old, of common stock, or with the Devon cross, have recently been sold for one hundred to one hundred and fifty dollars the pair. This surely affords a handsome remuneration to the breeder. There is generally a difference of about one-half, in cows and oxen, between select and inferior individuals of the common breeds.

He should raise more stock.—Many of our farmers have been “penny wise and pound foolish,” in destroying calves at their birth, in order to turn a few gallons of milk into ready money, thus retarding the increase, and enhancing the value of dairy stock. Cattle are the source of fertility to the farm—dung makes fat crops, and fat crops make fat cattle. In districts remote from market, where land is cheap, the rearing of neat cattle should certainly be a profitable business. It is so upon well managed farms, in the contiguity of markets, where lands are high. It may be made still more so at remote points, where lands are comparatively low, particularly if select breeds, or select individuals, are employed as breeders. But,

He should select the breeds best adapted to his farm; and we refer to the report upon neat cattle in our extra sheet, for advice, as to the breed which is best adapted to his farm. Having determined upon this, let him stick to it; preserve his finest animals to propagate from; make it his business to improve, and he will soon find, that instead of ten and twelve dollars, his yearlings and two year olds will bring him twenty, fifty, and even a hundred and fifty dollars each—nay, the last summer has demonstrated, that choice animals, of improved breeds, will bring 1,500 to 2,100 dollars sometimes.

Our Agricultural Journals, continue to increase and to improve. The Genesee Farmer has been enlarged; and it has been announced that Willis Gaylord and John J. Thomas, both gentlemen of high standing as agricultural writers, are to assist in the editorial department. The Rev. Mr. Colman, very favorably known as an agricultural writer, and a practical farmer, has promised to lend all the aid to the New-England Farmer that his official duties will permit. In the mean time it will be seen, by this and our previous numbers, that several new agricultural journals have been started in the west. However individuals are likely to be affected by these arrangements, it is certain that the public will be greatly benefitted. We estimate, that every additional subscription to these journals, increases the annual products of the soil at least ten dollars; so that five hundred thousand new patrons would add five millions to our annual agricultural products. May these journals all deserve success, and all receive it.

Daubenton on Sheep.—We ask of the sheep farmer a careful perusal of this article, inserted under extracts—of the whole article. In this latitude, the loss in this useful animal, in winter, is often very great. If we mistake not, this article satisfactorily explains a prominent cause of the mortality, and suggests a preventive, which is, or easily may be, accessible to every keeper of a flock. The change which takes place in the quality of the food, when sheep are changed

* Derbyshire Report, vol. ii, p. 96.

† Woburn Grasses, p. 389.

from grass to hay, or where, from the ground being covered with snow, sheep are deprived of access to the turf, it is here pretty conclusively shown, must become a primary cause of disease, though the disease itself may not assume a formidable appearance for some time afterwards. The preventive suggested, is to give the animals, once a day, and particularly at the time of change in regimen, roots or other succulent food. So far as we have been advised, but very few sheep have died in flocks which have had a daily supply of ruta bage, or other roots. Half a peck a day, or seven pounds and a half, would constitute an abundant ration. Estimating the average product of ruta bage at 600 bushels, two acres of these roots would suffice to feed one hundred sheep about one hundred days, or during the winter months, and would in a great measure supersede the use of hay. But as the ground is not ordinarily covered with snow more than six weeks or two months, half the quantity would very much contribute to their health and thrift. The observations of Mr. Daubenton apply, with perhaps no less force, to the ox and other ruminating animals, and suggest the value of green food, during the unrelenting severities of a northern winter. As a substitute for turnips and other roots, we have no doubt that well cured corn stalks, cut and steamed, and given once a day, would answer a valuable purpose in counteracting the tendency in sheep to sickness, on a change from green to dry food. Browse, particularly the branches of resinous trees, as hemlock, spruce, pine, &c. it will be seen from the examination which is given to the subject, are also likely to prove highly beneficial; and even clay, by correcting the humors of the stomach, has undoubtedly been serviceable.

Horticulture.—While agriculture supplies our absolute wants, horticulture, her sister, furnishes us with many of the innocent luxuries and delicacies of the table,—with a succession of choice fruits and vegetables, grateful to the palate, and promotive of health,—and, as coming within the products of the garden, with a succession of fragrant and beautiful flowers, eminently calculated to add to our intellectual enjoyments. The inhabitants of large towns must be dependent, in a great measure, for these rural luxuries, upon the market gardeners of their neighborhood; and the quantity and quality of the supply, and even the price, will materially depend upon the encouragement which is given to the producers,—and upon the competition which is induced among them. Nothing tends more to bring into market choice fruits and vegetables, at an early season and in quantities, than the emulation produced among the growers by pecuniary rewards; and where this practice has obtained, the most beneficial results have been experienced. The cities of Philadelphia and Boston have shared largely in these benefits, in consequence of the premiums which have been annually awarded by their horticultural societies. The Philadelphia society awards annually from three to four hundred dollars to gardeners and florists, for articles exhibited at their monthly exhibitions; and the consequence is, a constant improvement in the quality of the garden productions, and an increase in their quantity, which go directly and materially to benefit the consumers. We saw at the Philadelphia monthly show on the 16th May, a great display of fruit, flowers and vegetables; among the latter, quantities of new potatoes, cucumbers, cauliflowers, lettuces, &c. We have referred to this subject with the view of impressing upon the citizens of towns, who depend upon the market for the productions of the garden, the patronizing horticultural societies, as the surest means of being better and more cheaply supplied.

Mixed Crop of Corn and Potatoes.—John Lorrain planted ten acres of Indian corn, in rows eight feet three inches distant, and hills with three plants at eighteen inches in the rows. Between each row he planted two rows of potatoes. The product was 430½ bushels of corn, and 848 of potatoes, or 43 of corn and 84 of potatoes on each acre. At another time he obtained 50 bushels of shelled corn, and 150 bushels of potatoes from an acre. A gentleman has just assured us, that he made a similar experiment last summer, alternating two rows of corn, at two and a half feet, and two rows of potatoes, with very great success. This mode of culture gives to the corn the advantages of air and sun, which it requires, while the shade of the corn does not prejudice, or but partially, the growth of the potato crop.

Value of Ruta Bage.

Our neighbor Bement has kept twenty of his Berkshire hogs, mostly full grown breeders, from the first of November to the 15th of February, upon ruta bage and buckwheat bran, at the rate of six bushels of roots and one of bran per diem, fed them two raw meals a day, and one warm meal, boiled. When he began to feed with the roots, the hogs were low in flesh; at the termination of the three and a half months, they were too thrifty for breeding, and some

of them fit for the butcher. He estimates that four quarts of corn to each hog per day, for the time they have been fed with the roots, would not have brought them into a better condition than they now are. What then has been to him the value of his ruta bage?

Four quarts of corn per day to each hog,	
would have amounted, in the 105 days, to	
262 bushels, which, at 75 cents per bushel would be,	\$196 50
Add 105 bushels buckwheat bran, at 15 cts.	17 50

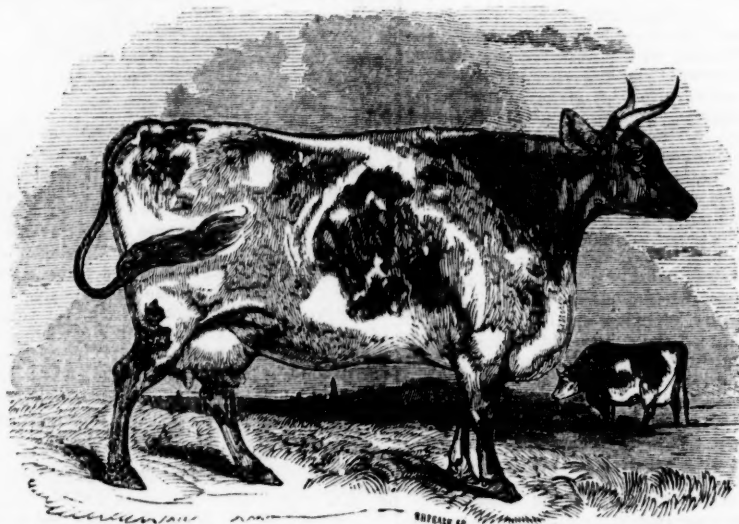
And it shows that the ruta bage was worth the balance, to wit, \$179 00
Which, divided by 630, the number of bushels fed out,

gives the value of a bushel, used in this way, at about 28½ cents. Deduct for the cost of raising, the quantity being about the average product of an acre, four cents the bushel, and it shows a nett profit of 24½ cents per bushel, or of \$154.25 per acre. We call this a demonstration of the profits of root culture.

Select Breeds of Cattle.

We gave in our last volume, figures of the Improved Short Horns, of the Devons and Ayershire cattle, a bull and cow of each. We now present two other cuts, one (fig. 2,) the Yorkshire cow, and the other (fig. 3,) the Devonshire ox, which are correctly copied from the most approved British works.

[Fig. No. 2.]



This, says the author of *British Cattle*, is a fair specimen of one of these cows, the character of the Holderness and Durham beautifully mingling. These constitute almost exclusively the stock of the London milkmen, and the numbers there kept to supply the metropolis with milk, amount to about nine thousand. They are celebrated alike for their milking and fattening properties. They are kept in houses, fed upon hay, turnips and brewers' grams, and milked without being suffered to go to the bull, till they no longer yield a profit on their keep, when they are dried off, and in a few weeks turned into good beef. They are said to give in some cases thirty, and even thirty-six quarts of milk per day. Loudon states the average product for the entire year at nine quarts per day—British Husbandry the average quantity given by each cow (probably when they are flush in milk only,) at twenty-two to twenty-four quarts. The good points of these cows are said to be well expressed in the following doggrel lines, from the *Farmer's Magazine* :—

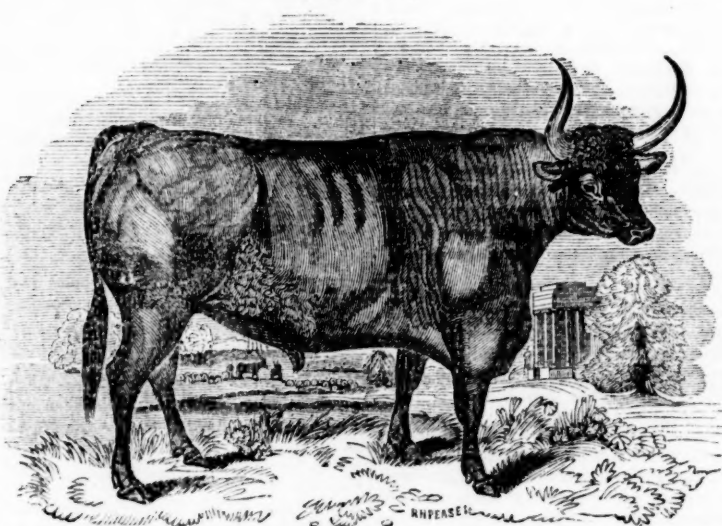
"She's long in her face, she's fair in her horn,
She'll quickly get fat without cake or corn,
She's clean in her jaws, and full in her chine,
She's heavy in flank, and wide in her loin."

She's broad in her ribs, and long in her rump,
A straight and flat back, without ever a hump,
She's wide in her hips, and calm in her eyes,
She's fine in her shoulders, and thin in her thighs.
She's light in the neck, and small in her tail,
She's wide in the breast, and good at the pail,
She's fine in her bone, and silky of skin,—
She's a grazer's without, and a butcher's within."

Several of the Yorkshire cows have been imported into our country, on board the London and Liverpool packets, to supply milk on the voyage, though not under their proper distinctive name—having been generally classed with the Improved Short Horns. One has been upon the farm of the Messrs. Townsends, which adjoins ours on the west, and another is owned by Mr. Bloodgood, whose farm adjoins us on the east. The latter, in February last, two weeks after she had dropped her calf, gave, upon moderate feed, thirty-three quarts and a pint of milk per diem. It is desirable that this valuable breed of milkers should be better identified, and their purity preserved among us, particularly in the great dairy district embraced between lat. 40° and 45°.

We have already given a general description of the Devon cattle, and the criteria of fine animals, vol i, p. 26, 40. The figure (3) here presented is that of an

[Fig. No. 3.]



ox begun to be fattened, but still exhibiting all the prominent points of the breed. "Where the ground is not heavy, the Devonshire oxen are unrivalled at the plough. They have a quickness of action which no other breed can equal, and which very few horses exceed. They have also a degree of docility and goodness of

temper, and also stoutness and honesty of work, to which many teams of horses cannot pretend."—*British Husbandry*. The greatest objection to Devon oxen is, that they are not stout enough for ploughing in heavy clay; and for this reason the Hereford cattle, which are a cross of the Devon upon a larger ani-

mal, are often preferred. We consider the Devon as admirably fitted to cross, for working cattle, with some of our native breeds. The Devons were introduced into Berkshire county some dozen years ago by Col. Dwight; and at the last fair in that county we thought the working cattle surpassed any we had before seen, and we attributed their excellence in a great measure to the Devon blood which we saw strongly developed in some of the finest individuals. We unhesitatingly recommend a cross of the Devons upon our native cattle, as a certain means of improving both their working and fattening properties.

Beet Sugar.

We have received several inquiries for information in regard to the manufacture of beet sugar, particularly the household manufacture. The sugar beet has been raised in various parts of our country, but we do not learn that any advances have been made in the manufacture of beet sugar. It seems to be well settled, that the manufacture is carried on more economically and profitably in large establishments, where steam power is employed, than it can be in small, and particularly in household establishments. The best directions we have seen for the latter, are contained in the report made to the French Royal Society, translated by Dr. Spoor, and published in the last volume of the Cultivator.

In general terms, the manufacture of beet sugar may be managed like the manufacture of maple sugar, after the roots are rasped and the juice expressed. The juice is to be boiled down, the syrup clarified, or defecated, and the process finished in the same manner that should be practised with the sap of the maple. The principal difference in the two operations is, that better materials are used, and more care employed, in clarifying the beet, than is ordinarily used in the maple process. Animal charcoal may be obtained in any family, by clarring common bones in an iron covered vessel, say a bake pan. Cream of lime is but another name for whitewash. These are the chief materials used in purifying the beet, which are not used in the process of clarifying maple sugar.

It will be seen by a letter from A. Dey, Esq. in the extra which accompanies this, that a new process of manufacturing beet sugar has been patented in Great Britain, which promises important advantages. We are at the same time notified, through the National Gazette, that an important discovery has recently been made in the Duchy of Baden, for the desiccation, or drying the beet root, without impairing its saccharine qualities, by which means the manufacturing process may be continued throughout the year. The saccharine matter is besides in a double state of concentration. One hundred pounds of the root (we presume in its undried state,) are said to give, under the new process, ten pounds of sugar. The process has been examined by two commissions, one of Bavaria, and the other of Wurtemburgh. After six weeks labor in the manufacture, the two bodies declared as certain the advantages announced. Several companies have been formed on the continent to profit by the improvement. Our late agricultural convention have charged a competent committee to investigate and report upon the subject of beet sugar, at their next meeting; and from the character of the gentlemen named on the committee, we anticipate an able and valuable report.

While on the subject, we will repeat, what does not appear to be generally understood, that large roots do not yield near so much sugar, in proportion to weight, as roots that are of medium or diminutive size. And further, a fact that we have seen demonstrated by three years' experience, after the beet has attained to maturity, which is known by the tops ceasing to grow, and the under leaves becoming shrivelled and yellow, the roots deteriorate—the sugar is changed to potash—according to the time they are left in the ground after the plant has ceased to grow. These remarks apply equally to the sugar beet, common beet and mangold wurtzel—whether raised for the table, for sugar, or for farm stock.

Egyptian Wheat.

This was spoken of, with the other varieties of spring wheat, in our September number, volume iv. Since that time our attention has been particularly turned to this grain, by the receipt of several parcels kindly sent us, and by repeated inquiries where the seed could be purchased, and at what price. It has also been highly commended in the news journals.

This wheat is known under the various names of *Egyptian*, *Syrian*, *Smyna*, *many spiked*, *reed*, and *wild-goose* wheat. It derives its latter name from a story, which is current in the north, that four or five kernels, from which the American stock has proceeded, was found in the crop of a wild goose, which was shot about four years ago, on the west shore of Lake Champlain. It is called *reed* wheat from the great strength of its straw, which serves to prevent its being prostrated in the field.

The first notice we have of this species of wheat in the United States, is in the Memoirs of the Philadelphia Society for Promoting Agriculture. A parcel of it was received in 1807, by the society, from Gen. Armstrong, then our minister at Paris. This grain was grown five or six years by Judge Peters, and proved to be very productive; a pint of seed, sown in drills and hoed, giving one bushel and a peck of grain. But we find the judge saying, after three or four years' trial, that it had not "thriven so as to encourage extensive culture." In a more southern latitude, he expresses a belief that it would do well. It was extensively distributed; but from our not having heard more about it in the last twenty-six years, we believed it had not proved a valuable accession to our husbandry.

We have seen beautiful fields of this wheat. We sowed a sample specimen two years ago, but on being assured by a friend that it was inferior for flour, we gave it up. In the Philadelphia edition of the Domestic Encyclopædia, printed in 1821, we find it stated, that this kind of grain does not yield so much flour or meal as any of the other kinds of wheat, and that "the flour is scarcely superior to that obtained from the finest barley."

Having said thus much, which we felt bound to say in the line of duty, as to the character and introduction of this grain into our country—it remains only for us to add, that the seed may be procured of our friend Mr. Thorburn, at five dollars a bushel.

Harrowing Grain.—This is the proper season to call the attention of farmers to this subject, as the operation should be performed as soon as the ground is sufficiently settled to bear the cattle. We have published several articles, showing the manifest utility of spring harrowing winter grain, and explaining the why and the wherefore. The harrow should be light, and if the teeth are long, it is well to intertwine a few branches of pine or other wood among them, to prevent them cutting too deep. The operation closes the fissures caused by the earth contracting as it does, pulverizes and opens the surface to the genial influence of heat and moisture, and, by covering the crowns of the plants, causes them to tiller more abundantly. We advise, that in every case, eight or ten pounds of clover seed be sown to the acre before the harrow is introduced. It will more than repay the expense of seed, in the fertility it imparts to the soil, to say nothing of the value of the herbage for farm stock.

Trimming Hedges.—Anderson, who is good authority in agricultural matters, makes this an essential rule in clipping hedges: *not to cut the top of the stem, until it has acquired sufficient stability to resist even a bull.* The sides are of course to be clipped, in a sloping direction, so as to give the hedge a conical form.

Meteorological.—The mean temperature at Albany, from Dec. 26, 1837, to January 24, 1838, was 32°, 96°. During the same period in 1836-7, the mean temperature was 14°, 96°—showing the remarkable difference of 18 degrees in the temperature of the seasons. On referring to the meteorological tables for the eleven years previous to 1837, it appears that the mean temperature of 1836 was about two degrees colder than that of any of the other eleven years, and eight degrees colder than the mean average of the whole period. We have not seen noted the mean temperature of 1837, but it was probably lower, some two or three degrees, than even that of 1836; or this at least must have been the case during the summer months, as many garden productions, as melons, egg-plants, grapes, &c. were more backward in ripening, and even indigenous seeds, as the butternut, walnut, three thorned locust, &c. did not attain to that maturity which they reached in 1836. On consulting the meteorological tables for past years, there appears much to warrant the opinion, that we have had a succession of cold, and afterwards of comparatively warm seasons. We had a succession of cold seasons subsequent to the great solar eclipse in 1806; another succession of them in 1816 and the following years; and the last few years have been progressively growing colder up to the present period. Whether the present mild winter is indicative of a favorable change, we do not pretend to conjecture. We give below the mean temperature of the last eleven years, as copied from the Academic Report of 1836:

1826 .. 51.07	1830 .. 50.65	1834 .. 48.53
1827 .. 48.62	1831 .. 49.15	1835 .. 46.17
1828 .. 51.36	1832 .. 48.10	1836 .. 44.73
1829 .. 48.20	1833 .. 47.62	

The conversion of Winter into Spring Wheat is effected in this way: When sown in the spring, winter wheat is said to send up only a comparatively few seed stalks, the lateral shoots will be weak, and the crop consequently light. If the seed from this, however, be sown the next spring, it will throw out stronger stems, will tiller with more luxuriance, and, if the

operation be repeated in the following year, it will then be found converted into summer wheat.

A sample of the products of the New Husbandry.—"In the year 1810," says the late John Lorrain, in his System of Husbandry, "besides soiling forty head of cattle and seven horses, the following products were obtained from eighty-five acres of land, to wit:

1750 bushels of potatoes.
817 do. Indian corn.
222½ do. barley.
60 tons of hay.

1391 loads of manure, of 32 cubic feet each. The manure, however, was the product of winter as well as summer feeding. The above product, without enumerating the value of the dung, was estimated at 2,799 dollars"—p. 312—equal to an average product, lacking a fraction, of \$33 the acre.

Dutton Corn.—There is nothing good and commendable but what has its counterfeit; and we regret to notice, that some late agricultural writers would not only make us answerable for the faults of the counterfeit, but responsible for the impositions which have been practised upon Mr. Thorburn, our worthy seedsman. Having cultivated the Dutton corn eighteen years, without having it once materially injured by frost, we ventured to recommend it as an excellent and early field variety for our latitude—but not as the earliest variety of corn. But it seems our neighbor Thorburn has sold seed, as Dutton corn, which was not early. It is proper to say, that our seed forms but a small portion of what Mr. Thorburn sells—and is generally off his hands early in January. Mr. Wm. Thorburn has been imposed upon, and has bought and sold seed, as Dutton corn, which was not such—and which he afterwards ascertained either did not grow, or did not ripen early. We have nothing further to offer in support of our opinion in regard to this variety of corn, than the numerous testimonials in its favor from our correspondents, published in the volumes of the Cultivator.

Baden Corn.—To those who have applied to us for *Baden Corn*, we remark, that the seed is not to be had in this neighborhood, and probably not north of Philadelphia or Baltimore. We cultivated a few hills, but it lacked some weeks of coming to maturity when the frost killed it. It will not ripen, we think, in New-York.

Texian Corn.—We have received samples of this from Harrisburgh and from North Carolina. Each kernel is enveloped in a husk—the grain is handsome, but light. We have tried it. It will not ripen in our climate.

Deterioration of Soil.

Our misfortune has been, and still is, we do not properly appreciate the exhausting influence of our system of husbandry upon the fertility of our soil. There are many in the fertile west who affect to believe, that their lands will bear constant cropping with wheat, or wheat and clover alternately, and who hence disregard their manures, the primary source of fertility.—The pioneers in the valleys of the Hudson and Mohawk once, no doubt, thought the same, and acted, or practised upon this belief, till made sensible of their error by the contrast in the products of old and new lands. Although many have now become sensible of the ruinous effects of the old system, but few, as yet, have commenced the needed reform.

In regard to West New-York, where we admit the soil is naturally more fertile, and more abiding in fertility, than the lands originally were in the eastern part of the state, we have pretty good evidence that the fertility is diminishing, especially where wheat is made the continued object of culture. Thomas Burrall, Esq. has a most excellent wheat farm in the neighborhood of Geneva, which he began to clear and improve twenty-one or twenty-two years ago, and on which he has made and applied much manure. Mr. Burrall informed us, in the summer of 1836, that he had noted down the average product of his wheat crop every year; that dividing the 20 years into three periods, he found that his wheat had averaged 29 bushels per acre during the first of these periods, 25 bushels the acre during the second, and but 20 bushels the acre during the third period—thus showing a diminished fertility of nearly one-third, under what may there be denominated a good system of husbandry.—We do not precisely know what Mr. Burrall's practice has been; but we presume that if it has been faulty, the fault has consisted in making wheat the great and primary object of culture, thereby impairing the amount of its specific food; and that a remedy for the evil would be found, in cultivating other crops more, and wheat less. At all events, his experience admonishes wheat growers, that their lands will deteriorate, if they return this grain too often to the same field.

Judge Cowen's Report,

On the propriety of introducing elementary books upon agriculture into common schools, made in pursuance of a resolution passed in the agricultural convention.

The committee to whom it was referred to consider the propriety of introducing books which treat on agriculture into district schools, respectfully report,

That so far as reading lessons on agriculture can be properly introduced into common schools, your committee are not aware that the books now used there are deficient. Such schools are not the places for learning the practical details of any business or profession. The utmost that can be done is by short, easy and interesting lessons to create an appetite for and a skill in general reading. School books in that line should therefore be of a miscellaneous character, having reference in a degree to the virtues which pertain to the agriculturist in common with others; industry, frugality, integrity, &c. If they be deficient in any respect, it is perhaps in not inculcating sufficiently at large the peculiar advantages enjoyed by the farmer. Beside mastering his appropriate reading lessons, the scholar is put to his geography, history, &c.; and these, when added to his spelling, writing, grammar and arithmetic compose about the sum of learning which the common farmer ordinarily can bestow upon his son consistently with the diligent pursuit of his business; and a thorough knowledge of these rudiments is about all which the son can acquire. Even this must be done in those intervals which can be allowed from the service of his father; and he is then left till he reaches full age, and for the remainder of his active life, to his own efforts for improvement upon the foundation thus laid.

He has already acquired a knowledge of the essential branches of his profession while laboring for and under the tuition of his father; and, in the usual course of things, will make a competent, perhaps a good farmer in the ordinary acceptance of the word. To make him more, it is at this stage, we apprehend, that agricultural books should be put into his hands. He now, in an educational point of view, has two objects before him. His primary object is that course of instruction which will make his profession available to its utmost extent in bettering his fortune; his secondary is that more general improvement of the mind which is to fix his intellectual rank among his fellow-citizens. The latter is of course left to his taste, his means and his leisure. But the former is a mean by which this common farmer ought to be enabled, in the course of a few years, to double his capital and the nett profits of his business by the additional knowledge which he brings into it, without adding a single acre to his domain. We assume that all this is feasible, even supposing him to be placed where a majority of our agricultural population now stand, on a farm exhausted of its primitive fertility. The history of agriculture will here teach him that soils naturally worse and more reduced by neglect, in a climate less favorable than his own, and in countries borne down by rent and taxes, have, by the application of that very skill which, by due attention, he can easily acquire and apply in his turn, been raised to greater strength than his own land possessed when first reclaimed from the forest, and put under cultivation, with all the vigor of its vegetable mould. Being capable of reading and understanding so much, and of studying and finally mastering the details by which such a result has been accomplished, and being, moreover, stimulated by considerations of personal gain, he will successfully aim at a similar result in his own case, if the requisite means of instruction be placed within his reach.

Such a great desideratum in the most important branch of national industry, never has been and never can be placed below the anxious notice of an enlightened legislature; and their refusal to act can be accounted for only by doubts concerning the means which are proper for promoting it. State and county agricultural societies have heretofore been formed, and are again proposed by some; by others an agricultural college, to be connected with a pattern farm. We have witnessed the operation of the former on an extensive scale and under vigorous legislative patronage. Although they proved to be useful in a high degree, yet many complained that the promised results would by no means warrant the continuing on foot such a cumbrous, troublesome and expensive machinery. The effect of the latter has not yet been seen. It is not to be denied that it may do well in what would be called the higher walks of agriculture; and in time extend its influence to the rank and file of the profession. But the whole army should be disciplined by the speediest methods. It is on an extended scale only that agricultural skill can be felt as a national benefit; and it is feared by many that its diffusion through such a medium as a college must be indirect, slow and perhaps, after all, stop short with but a small portion of community.

It appears to your committee that we should, therefore, as far as possible, avail ourselves of what may not improperly be called a *common school of agriculture*.—This may, as we believe, be done by placing more within reach of our intelligent yeomanry such books as insinuate agricultural instruction in a plain and practical way. We cannot doubt that such a method would be decidedly effective with all that class of young men, already very numerous, who have been educated in the manner we have before mentioned. We may assume that their course of life has formed them to habits of application and disciplined them in the manipulations of farm-labor; and though, so far, trained in some respects on an imperfect plan, their minds are not yet shackled

by prejudice in favor of a slovenly and negligent system. They have at home the advantage of theory and practice, of an intimate connection between reading and action, the acquisition of book knowledge and the means of applying it in their own business. In short, the family of such a man, his own fire side is his school of study, and his farm a laboratory where his learning not only may be instantly applied but turned to account.

Such is the only true system of instruction in other professions. A distinction is carefully kept up between the preparatory and professional education of the student. In the latter it is deemed essential that he should be put to practical details as well as reading; and his progress is very commonly measured by the diligence of his application, entirely independent of the character of his instructor. Give him the stimulant of necessity, his books and his field of exertion, and he will be sure to make good progress under the most careless tutor. He is put into a vigorous course of self-education.

Something much like this is already apparent among us, with those who may be called students in the profession of agriculture. A spirit of inquiry has been aroused, and evidences of improvement have, within a few years, presented themselves, more striking in character and aggregate than could be collected in the history of many years before. It is true these evidences are yet but sparsely exhibited; and it is to be lamented that they are far from being numerous enough to countervail the delusive encouragement heretofore holden out to the more splendid but less useful branches of industry.—The fact, however, presents itself; and your committee feel at no loss in attributing it to the more extended introduction of agricultural books among a reading community. The more conspicuous instances are obviously connected with the recent establishment of a periodical paper called the *Cultivator* at the city of Albany. This paper has been remarkable for its steady series of well selected lessons, with various information on the subject of agriculture, imparted in a plain and familiar style, and withal for so moderate a price as to be accessible like a common school book. Up to the time of its appearance, so low was the state of agricultural knowledge, that a great portion of the old and long cultivated parts of the state were surrendered in the minds of the proprietors, to a course of hopeless deterioration. Such gloomy prospects have been dissipated, confidence has succeeded to despondency, and has acquired steadiness mainly by carrying into practice the suggestions derived from the *Cultivator*. The Genesee Farmer, also, a paper conducted on similar principles, but with a more particular view to the western part of the state, has exercised a like influence within the sphere of its circulation.—The able conductors of these papers have evincenated from numerous and ponderous volumes, such portions of instruction as they believed would best subserve the wants of our general farming population, and sent them forth modified by their own local experience and information, and divested as far as possible of every thing technical or obscure. They have placed the professorial chair in the farm-house. Their success has added to the number of instances, in which, since discovering the art of printing, the practice of assembling in organized classes for the purpose of acquiring knowledge, may be dispensed with. Ten thousand eyes can now be simultaneously turned to almost any branch of instruction, more easily, cheaply, and with greater effect than one hundred could before. The wealthy farmer can avail himself of a full library, both European and American. But the ingenious purveyor of the periodical press has, we think, demonstrated, that, if his system be properly followed out, the distinction between the greatest and the most humble means may, in this respect, be nearly annihilated. To resume the figure we before used; the power of this press can be made most rapidly available in arousing the *esprit du corps*, in contributing the material, and perfecting the discipline of our whole agricultural force.

Your committee have adverted to the two papers mentioned, because to us at least they present the most striking instances in favor of the proposition we mean to submit. It is no slight evidence that by individual means of this kind, a good school is already established. We see from what has been done that it has taken the most appropriate form; and the inference is not less certain than it is gratifying, that such an effort properly encouraged, will eventually bring up the energies of our farming population to a par with what may be seen in the best cultivated regions of Europe. The object should be here as it has been there, to add to the intellectual power of the common farmer, and direct it into the line of his profession. The inductive philosophy of agriculture should be snatched from its hiding places and presented at the door of the cottage.

While, therefore, your committee disapprove the introduction of books on agriculture into common schools for children, they have not thought it impertinent to distinguish the circumstances under which, in their opinion, such books may and should be used. And they would suggest whether, among the various plans for agricultural improvement which have been submitted as worthy of legislative encouragement, the multiplication of such useful publications as have been found to answer the wants of our yeomanry, does not present high pretensions. Notwithstanding their present circulation, (and the committee are rejoiced to believe a circulation which not only has fully indemnified the proprietors, but will continue to do so) there are doubtless yet many parts of the state where they have not been introduced. One method of supplying the defect would be by new editions to be put in the market at a moderate price; or a copy might be placed at the expense of the state, with the

clerk of each school district, to be open at his discretion for perusal by his constituents. Various other and perhaps better systems of distribution may occur should legislative attention be thought due to the subject.

Respectfully,

E. COWEN.

The Mulberry and Silk Culture.

We call the attention of our northern readers, who are disposed to embark in the silk business, to the plan of rearing the Mulberry, practised by a correspondent in Michigan, as mentioned in a former number of the *Cultivator*, viz: to cultivate them in stools, and not as trees. To do this, seedlings of a years growth are chosen. The whole ground is ploughed; the plants are laid in the furrow, in a sloping direction, so that the top of the stem shall, after a furrow has been turned upon the plants, project a little above the surface. The plants may be laid in rows at six to nine feet apart, and like intervals between the rows. Nearly every bud will grow and become a shoot; and consequently there will be stools of several stocks instead of a single stem. The advantages of this mode of culture are,

1. The leaves are more readily gathered than from trees;
2. There will be more and larger leaves, because the system of roots will be larger in a stool than in a single tree, and the growth consequently more vigorous;
3. More leaves will be obtained from the same area of surface; And
4. And principally, if the winter kills the tops, wholly or partially, the dead parts can be easily cut away, and a new and vigorous growth ensues—because the roots are seldom injured if planted on dry ground. In case the tops are killed, it will only be necessary to retard somewhat the hatching of the eggs, till the growth of the new sprouts is somewhat advanced.

In this way it is probable the multicaulis may be rendered useful in the northern counties, or they may be cut down in the fall, and the stumps covered with litter or earth. In the mean time we would recommend more attention to the culture of our native red mulberry, which is hardy. The fruits ripen in mid-summer, when they may be easily saved for seed.

Proceedings of Agricultural Societies.—We have received the proceedings of several societies, and anniversary addresses, for publication. All of these possess a local, and many of them a general interest.—But it will be perceived, that as the *Cultivator* has a national circulation, were the practice of publishing these proceedings gone into, all might claim an equal participation in our columns, and at particular seasons would entirely engross them, to the exclusion of other matter, of more general interest. We hope these considerations will serve as a sufficient apology for what might otherwise be considered in us a want of courtesy. There are probably fifty or sixty societies who would have an equal claim to our columns; and as we cannot gratify all, we are compelled to deny all, except so far, as in our judgment, these proceedings possess pre-eminent merits.

The ruta boga crop possesses an advantage, over other root crops, not only in the shorter time it is upon the ground and requires nursing, but from the greater facility with which it is harvested. Mr. Hollis, of Butternuts, pulled and topped 214 bushels in three hours and fourteen minutes. It will require at least eleven days for a man to harvest this quantity of potatoes. The mode of proceeding was, to draw a turnip with each hand, and lay them in rows, the roots to the drills; and then return upon the next row, in the same way, thus bringing the tops of both rows together. In topping, the tail of the root was slightly raised with the left hand, while with the right, armed with a heavy knife, the top was severed with a blow.

Carrots.—We are gratified to learn, that the field culture of this root is rapidly increasing, and that several farmers are successfully feeding them to fattening animals.

Oat Pasture.—We find in the second volume of the Transactions of the Philadelphia Agricultural Society, an interesting communication from William Young, of Delaware, describing the mode which he had successfully adopted, of renovating lands, which had become so exhausted as to be "incapable of producing any crop." This was effected by "ploughing and sowing, for the purpose of producing pasture, and an accumulation of vegetable soil." For this purpose wheat, rye, Indian corn, buckwheat and oats were severally tried, and the latter adopted as the best. The soil was a cold heavy clay. His practice was to sow oats as early as possible in the spring, upon land ploughed in the fall, or in fields which were in pasture or oats the preceding autumn. These afforded early feed, and were fed till July or August, when the ground was reploughed, and again sown with oats; and these last

afforded pasture from early Sept. to Dec. Fertility was so far induced by this practice, that clover could be grown the second or third year. And when once in luxuriant clover, says Mr. Young, "there is no farmer at a loss how to make his fields as rich as he pleases; and having got them into good heart, it will be his interest to put them in such rotation as shall increase the vegetable soil, and consequent fertility of his fields." We beg the reader here to remark, that the great object of this excellent manager was, to make his fields grow clover—this attained, he considered further improvement easy. How much easier is it, to prevent, than to cure, barrenness! There is much land in the Atlantic states, however, so exhausted by bad husbandry, as to be incapable of growing clover. Mr. Young points out a mode by which it can be reclaimed, in a practice of some years; and on fields where no crop would grow, he, by his mode of management, maintained a dairy, fattened beef, and produced good crops, without the aid of any extraneous manures. Mr. Young's letter will be found at p. p. 187 to 199. Those who would profit by his example, should consult his whole practice. Dr. Mease bears testimony to the correctness of Mr. Young's statements, having visited his farm in 1806 and 1808.

Sheep-killing dogs.—"A young dog, having wantonly bitten and mangled a large lamb, so that it died, was muzzled by one of my servants, and tied to the dead lamb, for a day and a night, and severely beaten. He was entirely cured of his propensity for chasing sheep, and would never afterwards approach them."—*Judge Peters.*

The Veterinary Art.

We have been favored with an essay on the veterinary art, by P. A. Brown, L. L. D., of Easton College, Pa., "setting forth its great usefulness, giving an account of the veterinary colleges in France and England, and exhibiting the facility and utility of instituting similar schools in the United States," &c.

As it is not generally known what is implied by the term veterinary art, we make the following quotation from Dr. Brown's essay by way of explanation.

"The word *SCIENCE*, in its most comprehensive sense, means *knowledge*;—in its general acceptation it is "knowledge reduced to a system;" that is to say, arranged in regular order, so that it can be conveniently taught,—easily remembered,—and readily applied to useful purposes.

"An *ART* is the application of knowledge to some practicable end,—to answer some ornamental or useful purpose. The arts are divided into the *fine** and the *useful*.

"If the knowledge be merely accumulative experience, the art is called *empirical*; but if the knowledge is experience, guided by reason,—based upon general principles,—and brought under their control, it is a *scientific art*.

"Veterinary comprehends a knowledge of the external form, as well as the internal structure and economy of domestic quadrupeds, the appropriate management of them, and the nature, causes and cure of their diseases.

"The *VETERINARY* is "a *SCIENTIFIC ART*" in the strictest sense of the term. It invites its votaries to the following studies, viz:—

"1st. The different *species*, and various *races*, of domestic animals;—their different *breeds*;—the uses to which each breed is applicable;—the useful crossings of breeds; and the most economical and best methods of *producing*, *raising* and *feeding* each class and breed.

"2nd. The *breaking*, *educating*, *training*, and *fattening* certain domestic animals.

"3rd. *Commercial jurisprudence*, as regards domestic animals; including the uses to which can be applied, to the best advantage, their *flesh*, *hides*, *offal* of their *hides*, *tallow*, *hair*, *wool*, *horns*, *teeth*, *hoofs*, *entrails*, *blood* and *bones*.

"4th. The study of the *outward forms* of domestic animals, pointing out their *beauties*, marks of *strength* and *speed*, and their *defects*; together with the methods of ascertaining their *ages*.

"5th. The *internal structure* of domestic animals; their *anatomy*; their *comparative anatomy*; and the most humane and economical methods of making use of their *speed* and *strength*.

"6th. The various *foods* used for the nourishment of different domestic animals;—the different methods of *raising*, *curing* and *preserving* them with the greatest economy, and in the greatest abundance.

"7th. The various *medicines* required for domestic animals;—the most approved methods of *raising*, *curing*, and *preserving* those that are *botanical*;—a general knowledge of those that are *mineralogical*; together with the manner of *mixing*, *preparing* and *administering* both those that are botanical and those that are mineralogical.

*The fine arts are architecture, painting, sculpture and engraving.

"8th. The most effectual methods of *preserving* domestic animals from *contracting diseases*; and the most approved means of *curing* those that contract diseases; together with methods used to prevent *contagion* and *infection* among them.

"9th. The most approved plans for preserving domestic animals from *accidents* and *injuries*, and the performance of all kinds of *surgical operations* upon those that require them.

"10th. The most approved methods of *shoeing* certain domestic animals; either generally, or when diseased or lame."

Such are among the important and useful studies which would be taught in an agricultural school.—Those which appertain to mechanics, in the construction and application of farm implements;—to tillage, embracing the economy of manures, the adaptation of crops to particular soils—alternation of crops and root culture;—and to the department of horticulture, embracing the useful and the ornamental—fruits, or vegetables and flowers—their propagation, culture and preservation—all these, we say, would form branches of instruction in rural affairs, of perhaps as great importance to the individual and the community, as those that have been recapitulated as belonging to the veterinary art.

In giving an account of the Veterinary colleges in France and Great Britain, Prof. Brown has omitted to notice the eminent school in Edinburgh, under Prof. Dick. There are three veterinary colleges in France, at Lyons, Alfort and Toulouse. That at Alfort has 300 students, six professors, costs the government about 124,000 francs, about \$22,000, per annum, including the interest on the capital of 100,000 francs, invested in the farm and buildings. The school yields an income to the government, in return, of 198,000 francs. This school is furnished with a library, of three or four thousand volumes, principally veterinary, agricultural and natural history; a very extensive gallery of anatomical preparations; an hospital for the reception of sick animals, and for practical instruction; a botanic garden, in which there are upwards of 800 species of plants scientifically arranged, and a farm, large enough to instruct the students, practically, in the culture of all the plants employed in the nourishment of domestic animals, as well as all those used as their medicines. This abstract will serve to give some idea of the wise provisions made by monarchical governments to improve the condition of their agriculture. We gave in our last another evidence, in the policy adopted by the Great Frederick of Prussia, who annually expended upon agricultural improvements more than a million of dollars, and which he considered as "manure spread upon the ground," and which did not fail to make him a liberal return. Will republics be the last to appreciate the value of these stimulants to agricultural labor, and the last to apply them? We are already seriously suffering from this neglect, by being obliged to import bread-stuffs from Europe to subsist our population.

Prof. Brown, closes his essay with an estimate of the expense of establishing a Veterinary college in the United States, and a proposition to make such an establishment. He estimates the cost at \$47,500, viz. 125 acres of land, at \$100, making \$12,500, buildings \$30,000, and library and apparatus \$5,000. He proposes to raise \$50,000 by subscription, in shares of \$50 each, and to extend certain privileges to subscribers.

Dr. Ives on Horticulture.

We have received a pamphlet, entitled, "Extracts from an address delivered by Prof. Eli Ives, before the New-Haven Horticultural society, Oct. 1837," embracing a list of the premiums awarded at the annual exhibition, and a list of the officers and members of the society.

It is highly gratifying to see the men of the schools honoring rural labor, by studying to enlighten, to encourage, and improve its condition, and to see them dignifying these pursuits by adding example to precept. We may say, in the spirit of Cicero, when eulogizing Socrates—these men bring down science to our wants, domesticate it in our dwellings, in our gardens and on our farms—ruralize it, and render it more familiar, more useful in common life, and more in the reach of common capacities.

The following extracts will serve to show, that the professor justly appreciates the benefits, to the mind as well as to the body and the appetite, of horticultural pursuits.

GENERAL REMARKS.

"Horticulture, in its simplest form, treats of the improvement of the qualities of vegetables, flowers and fruits; or, in other words, it is the art which comprehends the various methods of producing all sorts of fruits, vegetables, roots, herbs and plants, for the support and luxury of mankind. It is the most perfect and productive mode of cultivation, confined, comparatively, within narrow limits. In its higher departments, it assumes the character of the elegant arts, and teaches the disposition of grounds and gardens."

"MORAL TENDENCY OF HORTICULTURE."

"The practice of horticulture has a happy influence on the morals of the community. The contemplation of whatever is beautiful serves to refine the taste and elevate the mind. The beauties of the fine arts, painting and sculpture, may find a substitute in the forms of vegetable life not less curious or beautiful. The beauties of the garden are within the reach of the great mass of the population."

"It becomes the philosopher, the politician, the moralist; indeed it is incumbent on all classes of society to encourage gardening in our republican country. Every community must have its amusements;—those of a moral tendency should be preferred. The objection on the score of morals, brought against some of the amusements of large cities, cannot be urged against horticulture. It is believed that a public exhibition of fruits and flowers every month, in those parts of the year which are favorable, would have a good moral tendency, and excite emulation among the cultivators, and would be accompanied by a very trifling expense, if a general interest were once excited."

After remarking on the history and objects of the society, and citing instances of horticultural taste and industry in eminent men, Professor Ives gives the following illustrious example, in the late President Dwight, of Yale College.

"He had the largest garden, the best culinary plants, and the finest fruits in the city, and all cultivated by his own hands. This fact will excite surprise, when it is recollected that he delivered a lecture to his class six days in a week—performed the duties of Professor of Divinity, and superintended the government of the college. He was the first in this city who cultivated the strawberry extensively and successfully. He demonstrated that an abundance of delicious fruit might be cultivated at a very little expense. He was a minute and accurate observer of the habits and laws of vegetables, and delighted in conversation to give or receive instruction in horticulture. He infused into his conversation, music and poetry, and was listened to with delight, even when his theme was the cultivation of cabbages. He taught that the proper time to prune fruit trees, *was in June*, when the plant was in the most rapid growth; and the reason was, that the wound will heal most readily at that season. Dr. Dwight, was enabled to perform so much and so various mental labors, by invigorating his constitution by exercise in the open air. No one felt more strongly the sentiment of the poet—

"The idler is a watch that wants both hands,
As useless when it goes as when it stands.
Want of occupation is not rest;
A mind unoccupied is a mind distressed."

Mention is made of Gov. Edwards having reared more than forty seedling pears, all of which may be denominated rich, and some of them very delicious. Reference is then made to Dr. Van Mons, and his theory and practice, in the paragraph we here quote.

"Slow and uncertain is the advancement of every science and art, unless aided by principles founded on inductive reasoning. This assertion is verified by the discoveries of Prof. Van Mons, in relation to the causes of the varieties of fruits and flowers. He commenced planting in a garden in Brussels, seeds of roses and other shrubs;—planting successive generations with a view to observe the variations. Afterwards he began with the seeds and stones of fruit. By means of a series of experiments with the seeds of flowers and fruit, he arrived at the following conclusions: so long as plants remain in their natural situation, they do not change, and their seeds always produce the same, but by changing their climate or territory, they commence varying from their natural state, and never return to it, but are removed still farther by every successive generation. It is not so much the effect of climate as of cultivation. In a state of nature, seeds do not improve or degenerate; but he remarks that the seeds of old trees produce trees more like the original or wild plant, than seeds from a young tree. Hence he recommends to plant the first seeds of a new variety, whether fruit trees or flower, if it intended to improve a variety. Another important fact for the cultivator of fruit is this; that the seeds of the fruit of young seedlings will produce trees which will bear fruit much earlier than the seeds obtained by planting the seeds of old trees. He also gives directions by which to discriminate those plants which may be expected to produce good fruit, from those which will produce bad or inferior fruit. The improvement in the quality of the fruit is at the expense of the life of the tree: Those trees which produce the most delicate fruit are short lived. The seedling pear trees of Professor Van Mons, of the eighth generation, bore pears at the age of four years. Double flowers he does not consider a variety, but rather a sign of feebleness. An augmentation of any part of the flower, is accompanied by a paucity of fruit.

"For almost half a century he has been pursuing his labors, disseminating new and healthful varieties. He remarks, that his intention has not been to establish a science, but to do a good act, which would be useful by the dissemination of good fruit."

Dr. Van Mons is entitled to the credit of not only doing good acts himself, but of causing good acts to be done by others. He has not only produced and disseminated many new and choice varieties of fruit, particularly of the pear, but he has awakened the zeal of others, who have been successful in obtaining like results. Among the new pears of high repute, produced by Van Mons, most of which are now growing, and many of them have fruited in the United States,

we may enumerate the *Bourre Diel*, which is in eating from November to January; the *Napoleon*, at maturity in November; *Maria Louisa*, ripening in October, besides many others of proved excellence. The good varieties which Van Mons has produced it is said amount to three or four hundred.

Highland Agricultural Society of Scotland.—Some unknown friend has kindly sent us the Scotsman, printed at Edinburgh, several columns of which are occupied with an account of the meeting of this society at Dumfries. There were more than two hundred cattle entered for premium, of the Galloway, Short Horn, Ayreshire, and other breeds; more than 500 sheep, besides horses, swine and other domestic animals; many new implements, seeds, grains, roots, &c. The Messrs. Lawsons, who have one of the best arranged seed establishments any where to be found, and who have been justly commended for their zeal and taste in getting up an agricultural museum, exhibited several new seeds of wheat, barley, oats, &c., which promise to be an acquisition to husbandry; they also exhibited the Rohan potato. But what strikes us as particularly characteristic of Scotland, is the interest which the leading men of the nation—the nobility, clergy and men of fortune—take in these associations, and the encouragement they impart to them by personal attendance at their meetings, as well as by pecuniary contributions. And we observe, that on this occasion, many gentlemen, of distinguished agricultural repute, attended from England, Ireland, and a deputation from an agricultural society in France.

Two experiments were made by Hart Massy, Esq. of Watertown, Jeff. last spring, according to the Watertown Standard, one in his corn field, and the other in his orchard, which produced uncommon results.—He planted five rows in his corn field with seed soaked in a solution of salt petre,—and the product of these five rows was greater than the product of 25 like rows along side, similarly treated in all respects save in preparing the seed. The steeped corn was not touched by the worm, while the rest of the crop was nearly destroyed by them. We have been in the habit of dissolving salt petre in our steep for seed corn, for many years; but as we have steeped it *all*, we are not able to judge of its comparative advantages.—Great benefit has been ascribed to nitre, in the preparation of seed wheat as well as corn, in communications from Robert Johnson and Dr. Graham, formerly senators, to the old society of agriculture, &c.

Mr. Massy's other experiment was to scatter plaster upon the blossoms of an apple tree, which had been shy in bearing—and had never given over two bushels of fruit. The tree bore almost twenty bushels, presumed to be caused principally by the gypsum. The fecundation of the fruit blossom is effected by the pollen of the male organ coming in contact with the female organ. Whatever prevents this contact, as strong winds or heavy rains, renders the blossoms abortive. The female organ in this case, could not have been rendered fertile by the mere contact of the plaster; but this might have operated beneficially, by adhering either to the pollen, and thereby rendering it less liable to be blown or washed away; or to the stigma of the female organ, and causing the pollen to adhere, when it chanced to fall upon it.

Vetches.—Vetches, sometimes called tares, are extensively used in England as a green crop, to be cut and fed green, like luzern and clover, to working and other cattle. They are of two kinds, winter vetches, sown in autumn, and cut in the spring, and summer vetches, sown in the spring, and cut at mid-summer, in time to sow the ground with winter wheat or rye. The late Chancellor Livingston made experiments in cultivating them as a fallow crop, in 1794, and the result is recorded in the memoirs of the old society.—Sown upon a light loam in May, and plastered, they produced a good crop. They were cut when in bloom, in August, and cured like hay. The product was about 25 cwt. Three bushels were sown upon a slaty gravel and plastered. These were intended for seed; but continued to grow, while the seed at the bottom was moulding and wasting; they were five feet long in October, but only three pecks of seed was obtained. The summer vetch has been tried in this neighborhood. It gave a great product in vines, but very little seed. Cattle are fond of them; and if the seed could be readily procured from abroad, they might no doubt be profitably cultivated, on a small scale, for working cattle or milch cows, particularly in the vicinity of large towns, where pasture is scarce.

Cuttings and Grafts, intended for propagation this spring, should be made before the buds begin to swell. They may be preserved in the cellar, or buried in the ground till wanted. Cuttings of the grape, currant, gooseberry, quince, &c. should be cut square and smooth, at a joint or bud, and the former should, if convenient, embrace half an inch of old wood, that is,

wood two years old. Four eyes are enough to a cutting, of well ripened wood; and all the buds save the upper one, may be inserted under the surface; and in the grape the upper bud may be slightly covered with loose earth. All cuttings strike best in a sandy soil, which is not wet; and where sand does not exist, it is well to throw a handful into the hole where it is designed to place a cutting. See pages 6 and 138 last volume.

Correspondence Condensed, &c.

We are obliged, from the number of communications on hand, to give a portion of them in a condensed form, or to content ourselves with a sort of summary of the matters which they embrace. And here we are disposed to remonstrate against a growing evil—that of communicating or asking information under false names. We verily are disposed to be more accommodating to gentlemen who give us their proper names, than to those who are anonymous, although we mean to be civil to all; and we believe the public are much of our way of thinking. Gentlemen who are able and willing to advertise the public of what they believe, or know, to be useful, will very much enhance the value of the obligation, by giving it the sanction of their names. It is creditable—it is highly praise-worthy—to enlighten and instruct our fellow-men, in whatever may tend to improve their condition in life; and the public are apt to think, that those who are not willing "to take the responsibility"—by giving their names, are either influenced by a false modesty, or distrust the information which they offer for the guidance of others. But to our task.

ROOT CULTURE.

We have a score of queries from an anonymous correspondent in Tennessee, in regard to the culture of roots, a subject on which we have endeavored heretofore to be full and explicit. Among them are the following—

1. *Can the root culture be brought to as high a degree of perfection, and cultivated to as great an extent in the present state of labor, as in England?* We answer in the affirmative—as much as any other branch of tillage husbandry. Labor costs more, but land costs less, with us; while the excess, if any remains, is counterbalanced by the rents, tithes, and poor rates, which the English farmer pays more than the American farmer. We are neither deficient in climate nor soil; but we are deficient in good implements and good culture. The expense of securing the turnip crop during the winter, though not great, when custom has rendered it common, is in a measure saved to the British farmer. But we do not think the culture requires to be as extensive here as in Great Britain, as, from the extent of our lands, compared to our population, winter forage is cheaper here and more abundant, than there. And besides, our Indian corn crop is a great source of winter cattle food, and of excellent food when properly secured and fed out, which the farmers of Great Britain cannot command. The ruta бага can be raised here as a second crop, after clover has been taken off; there it cannot. It can be raised here, under good management, at four cents the bushel. These facts will enable the farmer to decide, after a fair trial, how far root culture is adapted to his soil, his location, and the profits of his business.

2. *In what soils do they best flourish and give the most abundant product?* And,

3. *Which is the most profitable for stock, ruta бага, mangold wurtzel, or sugar beet?* The ruta бага does best on good sands, gravels or light loams; the beets on loams, either of sand or clay. Both require dry soils and rich soils; and long manure, spread and ploughed under, may be economically applied to either. We think the Swede ordinarily gives the largest crop, demands the least expense in culture, in harvesting, and securing for the winter; and according to the tests which have been accurately made in Scotland, it is rather superior to mangold wurtzel for feeding stock. The beet requires to be sown early in May—the ruta бага may be sown from the middle of June to the middle of July, according to latitude; and of course the former requires from six to eight weeks longer tending than the latter. The difference between the sugar beet and mangold wurtzel for cattle, it is presumed is not material. The latter will ordinarily give the largest crop, but the former contains the most saccharine or nutritious matter.

STARCH AND SUGAR.

W. Edwards, of Lima, who will please accept our thanks for his friendly offices in our behalf, asks us to publish the process of making potato starch, and also the process of converting this starch into sugar. We comply as far as it is in our power.

To make potato starch.—Wash the potatoes, and grate them into water, for which latter purpose a large grater should be procured from the tin-man; or, if on a large scale, the potatoes may be reduced to pulp in a grater cider-mill. Then take out the refuse pieces, if any, with the hand, and next strain the whole of the water in which the potatoes have been grated through a thin cloth, rather coarse, or fine sieve, and afterwards frequently put on and pour off water, until it comes clear from the starch, which is always allowed to settle or fall to the bottom of the vessel in which the operation is performed. Frozen potatoes may be profitably employed in this way, if grated before they thaw, they are found to yield half as much starch as fresh or unfrozen ones. The refuse pulp, when taken from the sieve, possesses the property of cleansing woollen cloths without hurting their colors; and the water decanted from starch powder is excellent for cleansing silks, without the smallest injury to their color.

We have said that the constituents of sugar and starch are the same, though differing in their proportions. The component parts of each, in 100, are given in Davy's Agricultural Chemistry as follows:

	Sugar.	Starch.
Carbon, (Lavoissier,) . 28	(Thenard,) 43.55	
Oxygen, " .. 64	" 49.68	
Hydrogen, " .. 8—100	" 6.77—100	
Or, Carbon, (Thenard,) 42.47	" 43.55	
Of water or " 57.53—100	" 56.45—100	
its elements, }		

We have also stated, in the 12th number of our first volume, on the authority of the Edinburgh Quarterly Journal of Agriculture, that starch may be converted into sugar, by means of sulphuric acid, &c. Our correspondent wishes to know the quantity of acid employed, and the whole process of transmutation. Upon these points we cannot enlighten him or the public farther than we have already published; and we do not know that the process has yet been promulgated.

To raise carrot seed. Mr. E. is informed, it is not necessary to use either long or short manure, if the soil is rich, as it ought to be. Plant out the roots in the last of April, or first of May, three feet apart, and drive a stake down by each plant; and as the seed stalks rise, tie them to the stakes, and gather the seed as it ripens.

Devastation by Blackbirds.—O. H. Otis writes us from Bristol, Wisconsin, that the times have proved disastrous there, to new settlers, on account of the ravenous birds, which destroyed the crops of the last season almost entirely, with the exception of potatoes. He implores our advice, how to diminish the unaccountable number of blackbirds that visit them during the harvest season; and we are sorry that it is not in our power to offer him relief.

"*Interior*," who dates at Little-Falls, admonishes against the use of tobacco water, in destroying lice upon cattle; and states, that where it has been used, some have sickened and died. He quotes Prof. Muzzy on the poisonous quality of the oil of tobacco, in support of his hypothesis. There is a manifest difference between the decoction and the oil; and as immense numbers of cattle and sheep have been washed with the former, or immersed in it, without it having caused sickness and death, we suspect that in the fatal cases noted by our correspondent, the calamity would have befallen the animals, even if the decoction had not been applied.

Another anonymous correspondent, who dates from Masonville, advises that calves tails be shortened some eight or ten inches, in order to prevent the "horn-ail," when they become of age! We cannot become a party in the outrage against the works of Providence which this practice would inflict; and therefore protest against the preventive, as contrary to reason as well as humanity. To atone for this, however, our correspondent recommends improvements in feeding hay and constructing milk-houses, which are better entitled to notice. In the first he recommends a free use of the hay knife, that the fodder may be taken from a small, rather than a large surface—the former being more snug, economical, and less injurious to the hay than the latter. He has his milk-house raised above the surface of the ground, instead of its being sunk below it, as in a cellar or spring house, with a trap-door in the floor, for the purpose of letting in fresh air from below. He has windows, with shutters which are closed in a hot day, and his house is shaded by surrounding trees. He thinks he gets more cream in this way than in any other, as his milk-room is generally cool and dry. The suggestions are worthy the notice of dairymen.

After culture.—G. W. Latham, of Jeffersonton, Va. wishes us to explain what we mean by "after culture," as applied to the corn crop. We mean all the culture that is given to the crop after the seed is deposited in the ground.

Miller's Toll.—A correspondent in Owego, wishes to know what toll millers have a right to take by law for grinding grain. The communication of our correspondent would be given entire but for the press of other matter. Our correspondent weighed all the grain he had ground, for some months, took it to mill himself, and afterwards weighed the product. The result was, he found that twenty per cent had been abstracted for toll, instead of ten per cent, which he supposed was the legal allowance. Assuming that our population is two millions, and that each inhabitant consumes five bushels annually, the difference between ten and twenty per cent toll, gives an aggregate to the millers of one million of bushels of grain annually, more than he thinks they are entitled to. We confess our surprise at not finding any law regulating this matter, and on being told that there was no such law. We have weighed our grain also, and have found the same result—a diminution of twenty and twenty-two per cent abstracted for toll. These impositions are so gross as to call for legislative enactments on the subject. As long as the matter is left to the discretion of the miller, impositions will continue. It is at all events proper, that the miller should be required to put up a notice on his door, of the rate of toll he does take, and to be obliged to abide by his rule, that his customers may be apprised of the fact, and be enabled thereby to select the most reasonable. At present, custom, which, in the absence of law, has the binding force of law, seems to have settled the toll at ten per cent. If the miller can with impunity take twenty, he may by the same rule take fifty per cent. The business really requires to be regulated by some definitive and binding regulations.

Spent Tan Bark.—A correspondent, who dates from West Haverford—asks us some puzzling questions about tan as a manure, and the chemical combinations which take place on its being mixed with caustic lime. We can only answer, in general terms, that tan is among the most stubborn materials to render soluble in the vegetable kingdom, and that until it is rendered soluble, it imparts no fertility, but rather abstracts from it. It is doubtful whether lime will so decompose it as to render it fertilizing; as Sir Humphrey Davy lays it down, that it must undergo fermentation to render it nutritive, and that like peat earth, it will not ferment "unless some substances are mixed with it which act the same part as the mucilage, sugar, and extractive or albuminous matters with which it is usually associated in herbs and succulent vegetables." Hence we should try fresh stable dung, instead of lime, to effect a fermentation, or the decomposition of tan.

Ed. Carpenter, of Glassborough, having come into the possession of a worn-out farm, a year ago, has detailed to us his practice the last summer, and asked our advice as to the best means of improving it. Mr. C. has begun well, in gathering fertilizing matters, and in raising ruta bage—at the rate of 600 bushels to the acre, and in feeding these to his stock. All farm stock may be kept entirely on these roots, if desired, with the addition of straw. If Mr. C.'s land will bear clover, the seed of this may be profitably sown with every small grain crop; and, until he has succeeded in restoring fertility, no field should be cropped more than two, or at farthest three seasons, before it is again stocked with clover and other grass seeds. Marl, if good, may be profitably transported four miles to improve his land. If Mr. C. will carefully save and apply all the manure he can gather,—dress his land with marl, alternate his crops—and stick to clover and roots, with industry and good management—he will renovate the fertility of his soil, and prosper, in despite of the laugh of his neighbors. And we beg to be advised of the fulfilment of our prediction.

Experiments in feeding roots.—W. Catton, of Lenox, N. Y. writes us, that he has gone to some extent in the culture of roots; that he has made several experiments in feeding them to stock; and that he finds carrots and sugar beets to be the most profitable for fattening cattle, and the ruta bage for milch cows and sheep. He raised the sugar beet at the rate of 1,000 bushels to the acre, and thinks them preferable to the mangold wurtzel.

Fred. Seitz, of Easton, Pa. having prepared a piece of ground, a sward, last fall, for ruta bage, asks if he can manure and crop it in the spring, with tares or other vegetables, in time to sow ruta bage. He might have sown it with rye, in the fall, upon the ley, to be fed off in the spring, and he may yet do it early in the spring, covering with the harrow—putting two bushels of seed to the acre. He can put on no crop that will mature in time. Tares, we believe, are not to be had in the country. Let the manure be reserved for the turnips, and the seed be drilled or sown upon the fresh turned soil.

Tea wheat. Mr. Edgerton assures us, produces from twenty to thirty bushels per acre in Wallingford, and is sown there from 15th to 20th May.

Ruta bage in Pennsylvania.—S. Mayleat, who dates at Montrose, Susquehanna county, assures us that he raised last year, 1,100 bushels ruta bage upon 132 perches land, equal to 1,333 1-3 bushels on the acre. Mr. M. boiled the roots, and fattened his hogs upon them, with the addition of coarse grain provender, and his pork, he says, is excellent. The root were grown in drills two feet apart, with intervals of ten inches between the plants—beech and maple soil, highly manured. We are glad to learn that this culture is extending. Ten thousand bushels, our correspondent advises us, were raised last year in his county, and 2,000 by one individual.

Steeping seed wheat to prevent rust.—Among other interesting facts communicated by Walter Scott, of Bovina, Del. county, in regard to farming, he states that two years ago, he dissolved a quart of salt in a gallon of water, boiled the pickle, and when sufficiently cooled, mixed it with his seed wheat in a tub, and sowed it. The crop was good, and was affected by neither smut nor rust. Some ears were selected when harvesting the grain, and sown in the garden last year, without being steeped; while some bushels were sown in the field, after having been pickled as before. The grain sown in the garden, was destroyed by rust; while that in the field escaped unharmed. The inference we are left to make is, that the salt prevented the rust, though we by no means consider the fact established. The probability seems rather, that the wheat in the garden was destroyed by rust, not because it had not been steeped, but because the garden had been made too rich, with long dung. The experiment is, however, worth repeating.

Several communications on hand will be published or noticed in our next.

Acknowledgements.—Texian corn from S. Carolina and from Harrisburgh; a sample of twelve-rowed yellow corn from S. W. Jewett, Weybridge, Vt. said to be very early; seeds of Prairie flowers, from G. W. Lee, Marion county, Mich.; Egyptian wheat, from several gentlemen—(see our remarks upon this grain); a sample of beautiful spring wheat from J. G. Soular, Galea, brought from Lord Selkirk's settlements on North Red River, lat. 50. This promises to be a valuable acquisition to our husbandry—(see Mr. Soular's letter, under correspondence); tea wheat from S. M. Edgerton, Wallingford, Vt. a beautiful sample, for sale by Thorburn; giant wheat from W. Thorburn.

□ We shall take the liberty of forwarding this number to several gentlemen, as a sample of our work. Should it meet their approbation, we shall be happy to continue to them the subsequent numbers of the volume.

CORRESPONDENCE.

Plan for a Barn.

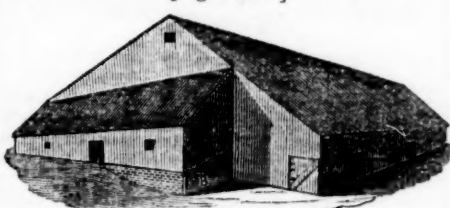
J. BUEL.—Dear Sir,—I send you my plan for a barn, not because I think it perfect; but because I think it better adapted to the means and wants of common farmers than any I have yet seen published. I would prefer ground sloping to the south on east, about one foot in six or seven, for the convenience of digging out the basement, which in this plan is the full size of the upright part of the barn and the stable across the end, or thirty feet by fifty-eight, and walled on three sides. Having in prospect the rapid extension of root culture among us, I consider a cellar necessary to the barn as to the farm house. A sufficient share of the basement should, therefore, be partitioned off from the rest, by double partitions, filled with chaff or tan-bark, to prevent frost. The remainder of the basement is to be used as a shelter for sheep or cattle, or a portion may be appropriated (as in the following plan) for a walk and the gearing of a horse power. I send two rough views and a ground plan. Figure 4 shows the uphill side of the barn,

[Fig. No. 4.]



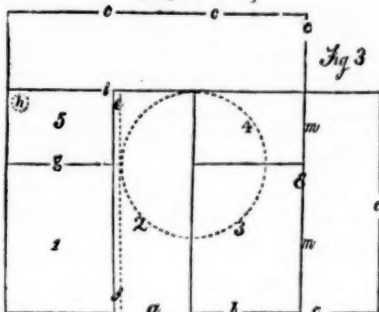
the ridge of which, if the ground on which it is built slopes to the east, will run north and south. The upright part is forty-six feet by thirty, with a lean-to stable twelve feet by thirty. This stable has the first portion of it divided into stalls for horses, and the remainder for oxen. This side of the barn stands eighteen inches from the ground, and the cellar is lighted by double glazed windows beneath the sills. Figure 5 shows an oblique view of the west end and lower.

[Fig. No. 5.]



hill side of the same barn, with a stable running the whole length of the upright part of it, that is, forty-six feet long. This stable is also twelve feet wide, and the floor of it is on the same level with the bottom of the basement; it has a manger the whole length of it, next the upright part of the barn, into which hay may be thrown from the barn floor, or roots may be carried from the cellar through a door, shown in the ground plan. This figure also shows the opening, B, twelve feet wide and seven feet high to the basement, sufficient to drive in a cart to clean out the manure. Figure 6 is the ground plan; 1, bay

[Fig. No. 6.]

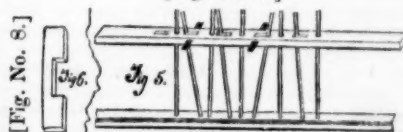


twelve feet by thirty; 2, barn floor, eighteen by thirty, barn doors twelve feet wide; 3, wagon house sixteen by twenty, with doors at h, nine feet wide; another at 4, into the horse stable; 5, tool room ten feet by sixteen. A scaffold extends over this and the wagon house, to be filled with hay fed through an aperture at the west end of the barn, into the manger m, or thrown to the cutting box on the barn floor. The dotted line shows the partition which stands two feet under the barn floor, making the cellar twenty feet by thirty. At this side of the barn floor is a narrow trap door f, down which roots may

be emptied. The larger dotted circle shows the walk for horse power beneath the barn floor; d, is a cellar separated from the inner one ten feet by twenty, with a door at g; h is a well, furnished with a pump. Here also should stand a vat, large enough to hold a foddering for the stock. A vegetable cutter, driven by a band from the horse power, should likewise be placed here. Over that part of this cellar, which projects beneath the barn floor, should stand a straw cutter, and a small corn-cracker, (driven by the same power,) with tubes made of boards leading into the vat below. There is also a stairway leading down into this cellar at the extreme end of the barn floor S. It will be seen by this arrangement of these labor-saving machines, that corn in the ear, or other coarse grain, may be cracked, and roots cut, by being previously placed in their respective hoppers, by the same operation of the horse, and by the same hand while he is feeding the straw-cutter, and all deposited in the vat below. Here, after moistening with water and stirring together, it is carried through the door i, and fed along the manger of the long stable, shown in figure 4, or carried out the north end of the same stable, and fed along the row of sheds that form the inclosure of the north side of the yard.

I prefer the Yankee mode of fastening cows, or other cattle, called stanchials, a section of which is shown in figure 7, on account of cheapness, durability, secu-

[Fig. No. 7.]



rity, facility of fastening and economy of room, two feet ten inches being sufficient for cows, and three feet for oxen. Figure 8 shows the fastening key.

A lean to shed may also be built against the north end of the barn, to be used as a shelter for carts, ploughs, &c. which will give the barn a good appearance.

This plan may easily be adapted to level ground, only the basement must be dispensed with, the floors all on the same level, the roots brought up from the cellar below, the horse power in an adjoining shed, unless it is on the endless chain principle, which may be set in the floored recess, denominated tool room, 5, shown in the ground plan. The upright part of the barn is framed as though there were no stables attached. The stables are all lean-toes of the most simple structure, though well covered and ventilated by windows.

Yours, L. B. ARMSTRONG.

Kingsbury, Jan. 1st, 1838.

Advantages of Agricultural Journals.

SIR,—I fear that the trifling sum of fifty cents, added to the price of the Cultivator, will curtail its usefulness, by inducing many to withhold their patronage; and consequently put a damper on their further improvement. Such a view of the subject has induced me to trouble you with this communication, hoping, that a statement of some of the advantages which I have derived from its perusal, may induce others to continue their subscription. Not having been bred a farmer, I was, of course, in a measure ignorant of the practice and theory when I commenced farming, eleven years ago. I then took some pains to inform myself of the most approved methods of managing, many of which I have since found to be (unaided as they were by the light of science,) materially wrong, and some, in fact, exactly the reverse from what they should be, both in theory and practice. For proof, I adduce the practice of applying manure. It was then thought the older the manure the better, and of course they did not apply it to their land, till it was eight months or one year old; and then its application to meadow land was thought to be the most profitable. If applied to tilled land, the practice of many was to spread it on the surface, alleging as a reason, that the juices must progress downward, and if buried with the plough, must be lost in a great measure to the roots of the grain. So in securing the corn crop, it was supposed the corn must be topped, to have the grain ripen well; and I am sorry the practice still prevails with so many. Evidences of its absurdity were not wanting last fall in this section of the country. So with seeding land; two quarts of clover, and two quarts of grass seed, were then considered sufficient for an acre; now four of each is little enough, and the difference is, instead of johnswort, daisies, and other pernicious weeds, our land is covered with clover and herd-grass, and any field may be a meadow.

The culture of roots I consider a great acquisition to the produce of a farm, (not so much in the bare nominal value of the roots, as in the improvement of stock and the consequent larger production of meat, butter, and wool,) as it has enabled me to make more butter from one cow, than I formerly made from two

fed in the usual way. Two hundred and seventy-two and a half pounds of butter, I have made from one cow the last season, besides supplying a family of six persons with plenty of milk. All that is extra in the above yield, I attribute to feeding roots, which I do freely through the winter and spring months; consequently my cow is in high flesh at all seasons of the year.

Cutting feed for horses or cattle I consider very profitable, having kept a pair of horses mostly for two winters on oats in the bundle, cutting four bundles a day for the pair, which keeps them in fine condition without hay. They are kept in this way ninety-four days, from the produce of one acre, yielding fifty bushels, which at the present price of oats, would cost twenty dollars. In the ordinary way of keeping horses, the same length of time, and to keep them in as good condition, they will require two tons of hay, worth sixteen dollars, and six quarts of oats a piece per day, making thirty-five bushels, worth fourteen dollars; amounting in all to thirty dollars; leaving a saving in favor of cut feed, of ten dollars for about three months, or twenty dollars for six months, or for the usual time of keeping horses in the stable, which is about eight months, of thirty-three dollars—sufficient to pay for one of Green's Straw Cutters, or the hire of a man for four months in the winter season. The result of the above estimate will be about the same with straw and provender.

The above are but few of the items of profit which I have derived from improvements made in farming within the last four years; but I forbear to speak of the advantages of draining land, curing hay, rotation of crops, fattening hogs, destruction of Canada thistles and other noxious weeds; improvements in gardening, straw cutter, cultivator, horse rake, drill barrow, and economy in the kitchen, which must be mostly attributed to the dissemination of useful knowledge, through the medium of agricultural publications; and had I possessed the same sources of information seven years sooner, the actual profit arising from it, could not have been less than one thousand dollars. Who then would be deprived of the benefit of what I have enumerated for one dollar a year? Who would be deprived of the reflection of having done something to improve his condition, and that of his posterity, for that paltry sum? Who would rather plod along in the footsteps of their forefathers, without the gratifying reflection of having improved their condition? Enlightened minds dwell with pleasure on the advances they make in any object worthy of their attention, whether in reference to the improvement of their time, or to the condition of their farms, or stock, or the liquidation of debts, or the enlargement of estates; some such stimulus is necessary to satisfy the man of business, otherwise he would seem to have lived in vain; for if, in the retrospect, he can find nothing to gratify, or cheer the mind, it will put a damper on future exertions, and leave no encouragement for improvement hereafter; and all the time thus spent, is lost to the gratification of the finer feelings, and leaves but the unwelcome reflection, that another year of his life is spent to no good purpose. Improvement should be the main-spring of all our exertions, and all means within our reach to obtain information in reference to our business, should be employed; reflection, close observation, and the careful perusal of some publication devoted to agriculture, combining the observation and experiments of men of science, as well as of common practical farmers, are within the reach of all, and should be sought after.

To J. BUEL, Esq. DANIEL S. CURTIS.
Canam Centre, February 12th, 1838.

Plan for a set of Buildings for a Farm, &c.

MR. BUEL.—I respectfully submit for your consideration, and herewith send you drawings of a plan, for a set of buildings, suitable for a farm of an hundred and fifty to two hundred acres, where breeding neat stock, dairy or growing of wool, forms the principal part of the business.

In such a cold and variable climate as we live in, I consider it of very great importance that all animals, under our charge, should not only be well fed, but comfortably housed.

Where is the person that has travelled through the country in the winter, and has not noticed a lot of half starved animals, standing on the south side of a barn, with their backs drawn up, and their feet in the compass of an half bushel; and in some places not even a wall or fence to shelter them from the pelting storm, or a piercing north-wester, without even straw or any other litter to protect them from the severity of the season. And it is not unfrequent to see them standing around a stack of hay, on the top or side of an hill, without any other protection than that afforded by the stack. Where is the person, I repeat, that has observed the above, without emotions of regret, that there is one so destitute of feeling to the beasts which form so great a share of our comfort and wealth?

Now, it is not expected that every farmer can af-

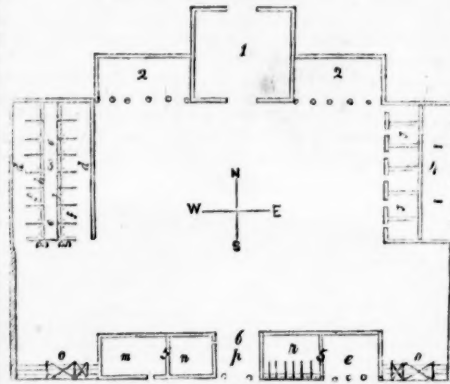
ford, however willing, costly stables and sheds for his stock; but it is in the power of most of them, to erect sheds or hovels made of poles and pine or hemlock boughs, with a little straw or coarse grass for a covering, which would, in a degree, protect them from the winds and storms of winter.

And where is the person, that has visited a well conducted establishment—where the cattle are not only housed, but well littered and kept perfectly clean—the hair laid perfectly smooth every day with the card—their full bodies, sleek sides, and placid countenances evincing good care and good keep?

Where is the person who has witnessed the above, and not felt a degree of satisfaction to know that there are some who are not regardless of the comfort of the brutes who are by Providence confided to our care and protection?

But to return to my plan. The area for the yard [See figure 9] should be 120 feet square; in the

[Ground Plan, Fig. No. 9.]



centre of the north line of the yard, is to be a barn, (No. 10,) forty feet square, and twenty feet posts; to

[North Section, Fig. No. 10.]



be raised from the surface of the yard, by a stone wall (a) foundation, laid in mortar, two feet above the ground, with a cellar seven feet deep, for vegetables. A door (b) and passage for a cart to pass through, for the purpose of putting in and taking out roots; and a window (c) on each side to serve as ventilators. The doors of the barn to be twelve feet wide and twelve feet high, and the floor fourteen feet wide.

On each side of the barn are to be sheds (2, 2,) 40 by 20 ft. and fifteen feet posts. The lower part to be open sheds, six ft. high, and the upper story for storing hay or grain.

[West Section, Fig. No. 11.]



No. 11, is a building to be placed on the west line of the yard, for a cattle stable, sixty feet long, thirty-two ft. wide, and fifteen ft. posts. The stables, (d, d,) on the ground plan, to be seven ft. between the floors; a passage (e,) of four feet, running lengthways through the centre, which will give eight stalls (f, f,) on each side, of seven feet each, suitable for two animals in a stall, to be secured by chains or bows to stanchions (g, g,) by the side of the partitions. Mangers, (h, h,) to be one foot six inches deep and two feet wide. Doors or windows on each side for ventilation and throwing out the manure; but I would recommend to have the manure scattered in the yard, by means of a wheel barrow. The upper story, or loft, for storing hay, with a space, in the centre, say eight by ten feet, for a straw cutter, with a hole in the floor, 18 inches square, and a tube to conduct the cut hay to the passage, from whence it is to be fed.

No. 12 is the building designed to be placed on the

[East Section Fig. No. 12.]



east line of the yard, sixty by twenty-five feet, fifteen feet posts; the east side (i, i,) of this building, as seen in the view, is intended for sheep sheds, twelve feet in width and six feet high, running the whole length of the building, to be divided into as many apartments as may be deemed necessary for the different classes of sheep.

In the west side of the same building, fronting the yard, see also west front, (j, j,) are to be six stables for cows to calve in. These will also be convenient for ewes and lambs when necessary to be housed.

No. 13, 13, forming the south side of the yard, are [South Section, Fig. Nos. 13, 13.]



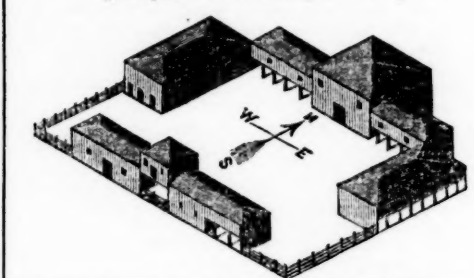
two buildings, fifty feet long, twenty feet wide, and fourteen feet posts, with a passage of twenty feet, over which is a building, (5, 5,) twenty feet square, twelve feet from the ground, twenty feet posts. This building is intended for storing coarse feed, &c. &c. having a tackle for the purpose of hoisting up the grain. In the east wing (k) is a stable for six horses, and room for harness, &c. The stable to be twenty-five feet long, and twenty wide. In the stable, near the door, may be placed a bin for horse feed, which may be conducted by means of a tube, from the granary above. The remainder of this wing (l,) is designed for sheds for housing wagons, carts, sleds, and other bulky implements.

The lower part of the west wing (m,) is for storing farm implements, and (n,) a work shop—The lofts of both wings for storing hay or straw.

Now, as the east and west buildings are only sixty feet long, there will be sixty feet of fence to reach the line of the south buildings, indicated by dotted lines. Should the entrance to the cattle stables be in the south end, as laid down in the plan, No. 11, it will be necessary to start the fence from the extreme west side, which makes the yard thirty-two feet wider, and to correspond and for appearance, I would start the fence on the other side of the yard, from the extreme east side of No. 12, which will make the yard still twenty-five feet wider. This will give room, on each end of the south range for gates, as at (o, o.)

I would recommend a good hard road to be made from the passage (p,) to the barn No. 9, and on each side of this road I would have the yard excavated or hollowed, sloping to the centre, and over these excavations may be erected sheds to protect the manure from evaporation. [See perspective view.]

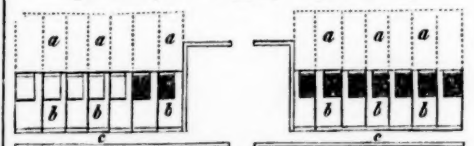
[Perspective View, Fig. No. 14.]



The yard may be divided for different grades of cattle, and running water should, if possible, be introduced into each yard.

I will also give you a plan of my piggery, (15, 16,)

[Ground plan of Piggery, Fig. No. 15.]



[Elevation of Piggery, Fig. No. 16.]



It forms the south side of my barn yard. The centre building is two stories high, twenty-five feet long, and twenty feet wide, fourteen feet posts, with a cellar underneath for roots. The first story is intended for boiling or steaming food for the hogs. The second story is my store room for coarse grain, &c. &c. On each side are wings extending fifty feet from the centre building, eighteen feet wide and eight feet posts. Each of these wings are divided into seven apartments, (b, b, b, b, b, b,) nine of which are for breeding sows, with a sleeping room to each; one for a boar and four for fattening or store hogs. There is a passage (c, c,) leading from the centre building, in front of the pens, four feet wide, in which project the feeding troughs, one foot wide, extending the whole length, with doors similar to the Shaker plan, as described in Vol. 2, No. 7, of the Cultivator. The troughs are divided, one-third for the sow, and the re-

mainder for the pigs, and is so contrived, by means of the studs standing so near together that the mother cannot rob the pigs of their food. A hog is a hog, put him where you will.

In the rear of each of these pens are yards, (a, a, a, a,) seven feet wide and sixteen feet long, with sliding doors in the partitions, and a door communicating with the barn yard from each of the outside yards. These yards are for exercise, air, and for the manure. Into these yards I cause to be thrown weeds, sods, muck, potato tops, and all refuse straw I can get; and now and then a load of fresh manure from the horse stables; and should the hogs not work sufficiently, by throwing in a small quantity of corn or oats, they will set to work most lustily and turn it over faithfully.

From my pig yards I took, last year, over eighty loads of first rate manure, which is worth, at least, one dollar per load. This will nearly pay for a man to take care of them.

Should the above plans be on too large a scale, they may be so modified and arranged as to suit any sized farm. C. N. BEMENT.

Profits of the Dairy.

Rensselaerville, Jan. 31, 1838.

JESSE BUEL.—Sir,—Below is a statement of the amount of butter and cheese made from my dairy of six cows in eight months of last season, which I think will do credit to the farming and dairy interest in this town.

1448 lbs. cheese, which sold at my door at	
7½ cts.	\$104 88
452 lbs. cheese at 8 cts.	36 16
415 " butter at 18 cts.	77 85
	\$218 89

Making an average of \$36.48 1-6 per each cow. Sir, will you please give the above an insertion in your valuable Cultivator? and you will much oblige yours, &c. REV. EPHRAIM CROCKER.

Culture of Indian Corn, &c.

Troy, Jan'y. 20th, 1838.

Judge BUEL.—Dear Sir,—Having purchased a farm about two years ago in this vicinity, and concluding to direct its cultivation myself the past season, and being without practical knowledge in agricultural pursuits, I sought through the columns of the Cultivator the information I needed, and without which I could not expect to be successful in this new, and to me, interesting enterprise. Having concluded to plant about nine acres with corn, I examined with some minuteness the different modes recommended for its culture. After this examination, believing I discovered substantial reasons, combined with practical knowledge, in your manner of cultivating this crop, I was not long in deciding on adopting it. And now, not that the yield was an extraordinary one, but because it was much better than others in this vicinity where the old mode had been adhered to, and because by adding further testimony to yours, it may be the means of inducing others to test its utility—although you have so repeatedly recommended this mode of culture, it may not be amiss to state in some detail the course pursued in the culture of this crop.

The land planted may be denominated a dry gravelly soil. About four acres of which had the preceding year been in buckwheat, and the remaining five acres in pasture for several years; the latter I had ploughed late in the preceding fall, to prevent the ravages of the grub worm; during the winter and spring I deposited in small piles on the two pieces, about 280 wagon and sleigh loads of manure, more than 200 loads of which was from a neighboring slaughtering house, the remainder was unfertilized barn-yard manure; it was evenly spread on the surface and ploughed under just before planting. The ground was furrowed about three feet apart each way, and planted in hills the same distance apart, putting in each hill six to eight kernels. Commenced planting on the eleventh, and finished on the nineteenth May. The varieties planted were your twelve-rowed Dutton, the small and the large eight-rowed yellow, and a flesh colored corn. The Dutton was planted on the 17th May. This is stated, as the result will show its early maturity. The corn was not sufficiently thinned, as from five to seven stalks were left in some hills, three or four would have been more profitable. A plough was not used after it was furrowed. The crop had two dressings with the cultivator and hoe; plaster was applied as usual, and pulverized bones were put in a few rows when planted, and to some extent used with the plaster on the hills. I prefer this article to plaster, as its effects were visible where used. The corn was slightly hilled, formed broad and flat, to retain the surface of the ground as even as possible. The corn came up well, and maintained through the season a healthy appearance and a vigorous growth. On the 6th of September much of the corn was ripe, and the remainder well glazed; on this day commenced cutting it up at the surface of the ground,

and put twenty hills in a stook to cure; on the 19th September, it being well cured, commenced husking it in the field, from the stooks, separating the nubins from the larger ears. On the 6th October this process was completed, with the exception of a small quantity put in the barn. The result was as follows: 956 bushels ears of corn, which I put down

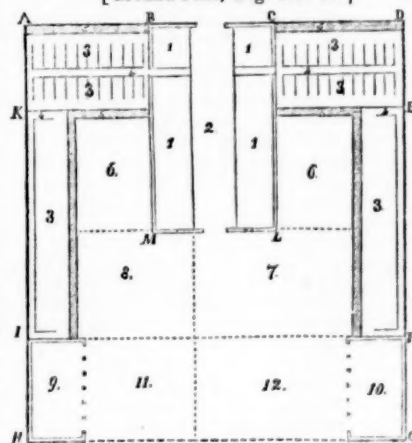
at 4s.	\$478 00
About 38 loads of pumpkins, 12s.	57 00
About 27 loads corn stocks well cured, 16s.	54 00
	\$589 00
Expense of cultivating the crop, except drawing in pumpkins and stalks,	\$162 43
Interest on 9 acres of land, at \$100 per acre,	63 00
	225 42

Nett profit, \$363 58
As I do not reside on the farm and pay cash for labor, it has enabled me to keep a pretty correct account of the expenses of this crop. I may have over-rated its value, though I have sold about 145 bushels shelled corn, at 8s. a bushel, and as the corn is sound and bright, considerable will sell for seed at an advance from this price, though some allowance should be made for shrinkage. I consider the stocks for fodder worth the estimate. They are used for principal fodder for eight head of cattle, and it is now mid winter, and not near half have been fed out. I have not charged the manure, as I deem its value to the land in succeeding crops ample to cover cost. Taking the footing of the above as a basis, it will exhibit a profit of about forty-seven per cent on the capital so far as the land is concerned.

Although I may trespass upon your columns, I beg to make another remark: that is, surprise I have felt at the apathy exhibited by the agricultural interest of this state, in not presenting and enforcing its just claims on the legislature, for its encouragement and its bounty. What branch of industry has not done this? and what can present so well grounded claims? What has done so much to elevate the state to its present power, wealth and resources? And yet its claims have been comparatively disregarded. Permit me to suggest the idea, that the State Agricultural Society at the approaching meeting, appoint a committee of ten or more efficient individuals in each country in the state, or the supervisors of the several towns in the state, whose duty it shall be to cause petitions to be circulated for signatures in each town, setting forth the claims of this branch of industry, and cause them to be presented to the next legislature for their action. This done, and no one can reasonably doubt its effect, as this interest holds the controlling influence; and it needs only to be aroused to concentrated action, and its influence will be felt in the councils of the state, and its just claims will no longer be disregarded. A SUBSCRIBER.

Judge BUEL.—Dear Sir,—Enclosed I send you a rough ground plan for a barn, the situation of which would be on the east bank of the Niagara river, nearly a level plain, and consequently much exposed to the cold northern and western winds; in planning it, therefore, one great object has been to obtain well sheltered yards, the expression of the architecture being a matter of mere fancy. I have an old affair with rough sheds in miniature of the above, but as I hope it may soon give place to a new one, which I should wish as perfect as possible, I should be very much obliged by any criticisms, or suggestions of improvement from your good self, or correspondents, in regard to it. I will now proceed to explanatory details.

[Ground Plan, Fig. No. 17.]



B, C, L, M, (fig. 17,) is the main part of the building, sixty feet by one hundred, with the gable ends fronting south-east and north-west; the silos laid upon a wall

three feet high, open, however, on the south-east end into the yard, where hogs could be kept, or terrier dogs have free ingress, and thus destroy rats or any vermin that might be disposed to harbor under the bays. A mast also should be placed in the centre of each mow, leaving a space around it, in the manner of the Shaker's barn at Hancock, for the purpose of ventilation, and carrying off the steam from the new hay, and the open space under the bays would be necessary to insure a sufficient current of air for this purpose. Under the passage way the earth should be excavated four feet, and a strong cemented wall built up to the floor, thus making a cellar seven feet deep, one hundred feet long, and twenty feet wide, and capable of holding more than 8,000 bushels of roots, and perfectly rat proof. In the floor, over the cellar, trap doors should be placed sufficiently often, so that carts loaded with roots might drive in and be tipped up, thus saving the whole labor of unloading, that is usual in carrying into cellars. A moveable tackle and fall should be hung, with large baskets, so that one man could hoist out any quantity of roots through the trap doors when wanted. For the bays a crane should be rigged, that would take up the hay loaded on the carts, in a moveable rack-body from the wheels, swinging it over the mow, and then turning it topsy-turvy, and thus unload in a single minute. Granaries could be partitioned off from any part of the bays with hemlock plank, through which a rat never knows, and any other internal arrangements made that fancy or convenience required. Many would undoubtedly object to so wide a passage as twenty feet in the main building, but I find a roomy thoroughfare and threshing floor of very great convenience for a thousand purposes of the barn and stock, and besides, if not all were thus wanted, any part could be used just as well as if it were so much bay, in the storage of grain, in sheaf, corn in stook, &c. &c.

A, B, and C, D, would be additions running out sixty feet each side of the main building, B, C, L, M, with gable ends fronting north-east and south-west, and may be built sufficiently high to accommodate all the hay over head that the cattle stabled in them would consume during winter, or their fodder could be thrown from the bays, and taken through the five feet passage ways to their mangers. Plank or ground floors, as is judged best, could be used, the bottom of the stercorary sunk three feet below, with a cement floor, and laid up in wall, the roof running over it, and doorway partitions between it and the stable, to be opened only when the stables were cleaning. The manure thus, both solid and liquid, would be completely protected from wasting air and rains, and its who's nutriment preserved till the moment of its being carted out to fertilize the land. Two feet of turf placed on the bottom of the stercoraries in the fall of the year, and laying all winter with the urine from the stables, and moisture of the cleanings leaking down and saturating it, would become in the spring, for most purposes, equally valuable to fresh dropped stable manure.

K, I, H, and E, F, G, are sheds running south-east from the additions A, B, and C, D, and parallel to the main building. These also could be of a sufficient height to take in fodder enough over head for support of the stock below through the winter. The stables, &c. are on the same plan of A, B, and C, D, and need no further remark. From I to H, and F to G, are left as open sheds, either for sheep and young cattle, or tool and wagon house. A well should be sunk, and a pump house erected over it, where the four corners of the large yards meet, with watering troughs in each, and pipes leading to them, and so arranged that the water would not freeze in them during the coldest weather. The yard fences may be so constructed as to be enlarged or contracted at pleasure, or more subdivisions made if necessary. The divisions seem to me of great utility and convenience. Sheep may be thus kept separated, large and small cattle divided, breeding mares, colts, and stud horses let out from their box stalls, for the regular exercise, that is so beneficial to them in winter, and for want of which disease is often contracted.

[North View, Fig. No. 18.]



Thus, sir, you have my general plan, which may be enlarged or circumscribed, according to the wants of the builder. If many sheep or young cattle were kept, the open sheds must necessarily be extended, or if a small farmer, who would not care for the additions A, B, and C, D, and yet wished to preserve the principle of the plan, the main building could be reversed, the gable ends fronting north-east and south-west, and then sheds attached as from K to H, and F to G, of just such dimensions as suited his wants.

I consider all stock buildings as *radically* deficient in comfort and convenience, that do not shelter from the cold winds, that so completely desolate the northern part of the American continent during winter, and yet how seldom do we find that this matter is *even* thought of. I know not a barn thus protected in this whole region. Had stock growers the least consideration for the well being of their poor dumb animals, or regard for their own interests, they would in every instance immediately erect wind and rain shelters for their cattle; and however rude at first they might be, the gain in growth and economy in feed they would find to be greatly increased, much more so than those can have the least idea, who have not yet made the experiment.

Very respectfully yours,

LA GRANGE.

Explanation of the Cuts.

Fig. 17, presents a ground plan; Fig. 18, is a north-west view of the barn and stables; 1, 1, are bays, 20 feet broad; 2, main passage, threshing floor, &c. 20 feet wide; 3, 3, 3, 3, stables, 14 feet wide; 4, 4, 4, 4, passage ways, 5 feet; 5, 5, 5, 5, stables, 7 feet; 6, 6, yards, 34 by 55; 7, yard, 30 by 74; 8, yard, 50 by 54; 9, 10, open sheds for cattle, sheep, wagons, &c.; 11, yard, 50 by 75; 12, yard, 50 by 100.

Objections to Live Fences.

Essex co. Virginia, Jan. 17th, 1838.

DEAR SIR,—Your truly valuable paper is taken by my oldest son, and I always read it with great interest, although it occasionally contains articles on which I feel strongly inclined to comment, but have doubted whether you would not constantly have on hand numerous other communications better worth publishing than any thing I could send you. The spirit, however, moveth me so, at present, that I venture to offer you some remarks on the subject of live hedges, in opposition to the views expressed by yourself and others, in your January number.

I assume it as a proposition susceptible almost of perfect demonstration, that live hedges cannot be advantageously adopted, in our country, as a general system of inclosure. First, because they are actually more expensive, in most situations, than dead fences. Secondly, because there are no plants or trees heretofore tried among us, except the holly, sufficiently exempt from fatal diseases, and easily procurable, to render them a safe reliance for hedging. And lastly, because the present law of descents—throughout the United States, which will never probably be changed for the English law of entails and primogeniture,—inevitably produces frequent subdivisions of landed estates, and consequent changes in their fences. Let us examine these objections seriatim.

That live fences are more expensive than dead ones, seems to me manifest, for the following reasons: In preparing for your fence, you must dig a large ditch. If cedar be used, you must next collect the plants, according to Col. Taylor's plan, and cart them to the spot; but there are few portions of the United States wherein the cedar grows naturally, and to sprout berries I know to be a very uncertain process. After setting them in double rows, you must continue to cultivate them, once or twice a year, until they attain sufficient size and strength to protect the crops from what our Yankee friends call, "*breachy* cattle;" an adjective, by the way, which should be in all our dictionaries, as it forcibly expresses what no other single word in our language does. The period necessary for this purpose, I assert from my own experience, to be, on an average, ten or twelve years, where the hedge is of cedar; nay, still longer, unless there be a ditch and high bank to aid it. Manure too, must be several times applied; a protective dead fence must also be kept up, for several of the first years of its growth, to guard against the aforesaid "*breachy*" marauders; and at least one annual pruning must be given forever; unless indeed, the hedge be left to grow as nature prompts. In this case, if it divides two fields, it soon spreads, in such a manner, as to exclude from culture, at least one acre of the best land, in about every four hundred yards; whereas a fence of dead wood, or stone, or brick, excludes only the very narrow breadth on which it stands. Again, the hedge of cedar, even in its most perfect state, is, of itself, no protection against hogs that run at large, as they do in Virginia, and several other states, for the bottom limbs always die after a few years, leaving large open spaces. This is particularly the case with Col. Taylor's cedar-hedges, which I have seen three or four times a year, ever since they were planted; although at a little distance a careless spectator would not probably notice it. The ditch-bank on which the hedge stands, is generally so steep that hogs cannot climb it; or there are numerous places through which they could pass with perfect ease. This tendency to die in the lower limbs of the cedar, I have noticed in all the hedges of it that I have ever seen. But it is more observable in Col. Taylor's than elsewhere, owing, as I believe, to an error committed in the early management of it. I feel great reluctance to differ from such authority, and one too, who was a personal friend to whom I was strongly attached for many years before his death.

But the error, if it be one, is important to all who may attempt to make cedar, or any other live hedges, of trees that grow with a single body, and I will therefore state it. Col. Taylor topped his cedars at the height of one foot, when they were only a year old, and trimmed the sides *perpendicularly*. The English authors on hedging, without an exception, as far as I recollect, and Mr. Kirk of Delaware, who probably has more experience on this subject than any other man in the United States, all recommend the topping to be postponed until it can be done about four feet from the ground; and the sides to be so trimmed, as always to keep the hedge wider at bottom than at top. The reasons assigned, (and they appear to me unanswerable,) are, that the longer the main stem can be suffered to grow, the sooner will each plant attain the requisite strength; and that to give the sides a conical shape is essential to their vitality, as each limb requires for this purpose its due proportion of light, air, and moisture, which it cannot receive if the sides of the hedge be perpendicular.

Now let us endeavor to show the comparative expense of fences made of dead wood, or stone. None of them have to pass through a long non-age, requiring a guardianship, for they are at maturity the moment they are put up. None of them require a preliminary ditch, although it may be advantageously used where materials are scarce or dear. None of them exclude from culture more than the very narrow breadth of land on which they stand; and they draw nothing from the adjacent soil to injure the crops, which may almost touch them while growing; nay, they actually benefit their growth, in some degree, by keeping the earth near them more moist than that which is more distant; and the rotting, (when made of wood,) is really a manure, however small it may be. None of them are *immoveable*, which live hedges are; but may be carried from place to place at no other expense than taking down and putting up. Again, the materials, in very extensive districts,—even of the old states, and nearly every where in the new ones,—cost nothing but the cutting, carting, and putting up; for they are often so much in the way of the proprietors, that they will actually give them to any one who will take them off. In all the Atlantic states, with the exception, perhaps, of the Carolinas, stone is a real nuisance over considerable portions of them, and must either be used in fencing or put up in large piles, to fit the land for profitable culture. But when once the stone fence is properly made, no farther labor on it will be necessary to the end of time. I have known, from my boyhood, one made of free-stone, which is less durable than any other, used for fencing, and it has been standing more than fifty years, (how much longer I know not,) and not a minute's labor, I believe, has ever been bestowed on it, during the whole of that period. In regard to fences made of timber, I can also assert from my own long experience, that they will last, if made in the best manner, from six or seven to twenty years, without any other labor than that first bestowed on them. The time depends, of course, upon the kind of timber used in their construction. If the inclosure be all *above* ground, and such as we southerners call a "*worm-fence*," which you and your northern readers may not possibly understand, unless I tell you that it more resembles what our mothers and grand mothers used to term "*herring-bone* stitch;" such fence, without violence from "*breachy* cattle," or "*breachy*" men, (which are far worse,) will certainly last from six to ten years, without the slightest repairs, unless a tornado or whirlwind has passed over it. To insure this however, it must be made of some one or more of the varieties of timber usually preferred, and cut at the best season. These, in Virginia, I believe, are ranked in the following order: yellow locust, red cedar, black walnut, chestnut, sassafras, black mulberry, white oak, heart pine, and red oak. I may mistake in regard to their relative durability, but not as to the time that a worm-fence made of any of them will last without repair, if undisturbed by accident, or design. If the inclosure be what is commonly called "*post and rail*," I again assert, from my own experience, that one made entirely of red cedar on my farm lasted eighteen years, without one moment's labor being bestowed upon it; and that many of the posts and rails are still sound, still in use, after standing thirty years, the fence having been taken down but once for repairs. The posts, when first put up, were rough, nothing more being done to them than to cut them of the proper length, and to bore them with a two inch auger, at proper intervals for the rails. To those also, which were made of the bodies of small cedar, of various sizes, nothing more was done than to trim off the limbs, to cut them of the proper length, and to make round tenons at each end, that they might fit the holes in the posts. A small portion of the rails of the largest size were split into two pieces. Yellow locust posts, I know, will last longer, in general, than cedar; and I have been assured, from good authority, that catalpa is as durable as locust. Here then we have

three varieties of timber, two of which are common in many parts of our country, and the third might soon be made so,—of great durability, when sunk in the earth, even without charring; while we have several others that will last for many years, if charred before inhumation; and still more, which remain sound for ten, fifteen or twenty years, when used above ground. We may assert it then, as an incontrovertible fact, that fences of dead wood, if made of the most durable kinds of timber, common in the United States, and carefully put up, will last, on an average, from six or seven, to ten and twenty years, *without expense*; whereas *some* annual expense *must* be incurred to keep up a live fence as long as it lives. Let those whom it concerns compare the cost of each, for one generation or more, and determine accordingly.

I had almost forgotten to mention stump-fences among those which are preferable, in certain situations, to live hedges. The invention of that excellent implement, the *stump-extractor*, must soon render these formidable inclosures common in every part of our country, where much land has been recently divested of its timber, and of this we have some millions of acres. Your farming gentry who go more for the new-fangled,—although already hackneyed,—term, "*picturesque*," than for the *profitable*, will utterly eschew them, as too revolting both to sight and taste; but brother Jonathan, whose preference of the *useful* to the *showy*, where they cannot be united, I most cordially approve, will cling to the stump-fences as long as there are materials to make them, and will leave the live hedges for pets to their dandy brethren; for (with regret be it spoken,) we have dandies in farming as in every other walk of life. Not that I wish, by any means, to rank all hedge-makers among our brother dandies, for I am sure that many of them are actuated by the true spirit which should actuate all the genuine friends of husbandry; but if any should appear among us, as sometimes happens, who are not governed by this spirit, but proceed as mere fancy prompts them, no "*esprit du corps*," I think, should prevent us from attempting to guard novices against their influence.

My next objection to live fences is, the number of fatal diseases to which *all* plants or trees, heretofore tried among us for the purpose of making them, are liable, except the holly. This tree is *sui-generis*, in regard to its exemption from disease, and its throwing out limbs, even touching the ground, which live and flourish quite as well as all above them. Another peculiarity is, that the browsing of cattle and sheep on the extremities of the limbs, improves it in such a manner, that it soon becomes quite as dense and close, as the best trimmed garden lot. Our worn-out old fields, in the tide water portion of Virginia, left uninclosed and abandoned to nature's restorative influence, exhibit thousands of proofs of this fact, for the holly abounds in such grounds; and many of our poor cattle and sheep, left also in a great measure to the same all-bounteous nurse, have been instinctively led to the holly as a pretty good anti-starvation article. Of these we have also the pine and the cedar to aid the holly, or heaven only knows how large numbers of our stock would keep life and body together during a considerable portion of the year. The objections to the holly are,—the extreme difficulty of making its berries vegetate, and its uncommonly slow growth; for many of our brethren seem to hold with the Irishman, who swore that, "*as posterity had never done any thing for him, he would never do any thing for posterity*."

Although fences of this excellent hedge-plant are represented as common, both in England and Scotland, by all their agricultural books, I have never known nor heard of but one attempt to make a holly-hedge in our country. This was in my own county. It was nearly a mile in length. Great care was bestowed upon it, at first, by the projector; but his Virginia-patience failed long before the hedge could have reached maturity. Utter neglect was the natural consequence, and his successor, (not his heir,) wantonly cut it down. A few obstinate stumps, however, still testify to the vitality of the holly, which nothing but fire or extirpation can kill, and to the reckless attempts of man to destroy or reject it, notwithstanding its admirable capacity to prove the best friend of all hedge-fanciers.*

The other plants or trees that I have known to be used for hedges, are the English hawthorn, two varieties of the American thorn, the *Pyraantha* or ever-green thorn, and the honey locust. Two experiments

* For the information of those who plant hollies to ornament pleasure grounds, I will here state, that we have several varieties in Virginia, producing, in great profusion, berries of various shades of scarlet, from the brightest and richest, to that of a paler hue. We have two other kinds, whose berries are of a pale orange color, the one being somewhat deeper than the other. These however, I believe to be scarce, as I have never found them, except on my own farm, and one other. The holly with variegated leaves is not a native.

only, with the latter, have come to my knowledge. The first was made by myself. I planted the seed, after soaking them in hot water until they swelled considerably, in which state they, as well as the seed of the yellow locust, and several other similar seed which I have soaked in the same way, will come up as readily and certainly as peas or beans. The plants, however, after growing two or three years, and being cultivated during the time, began to die in spots; while those which survived, threw out so few side-limbs, and manifested such a tendency to grow erect, that I extirpated them. The other experiment was mentioned to me, many years ago, by Mr. Rufus King, our former minister in England, who told me that it failed with him. He made the same objection as I have done to this tree. Of thorn hedges I have seen several in Maryland and Delaware, and a few in my own state. All of those in the first mentioned states had gaps in them, where the bushes had died, apparently from some disease or other. They were chiefly of the maple leaved thorn, as well as I recollect. The most considerable trial that I have ever known, in Virginia, was commenced, many years ago, under the directions of an English farmer, near Fredericksburg, on the main stage road, and with at least two varieties of thorn, the English hawthorn being one of them. This hedge did not succeed; but at the death of the first projector, the farm became the property of the present proprietor, who made an effort to revive and extend it, at least a mile in length, chiefly, I believe, with the maple leaf thorn. From having passed it several times a year ever since, I can testify that no man could well have taken more pains to insure success, yet nearly all the thorns are now dead, and the remainder fast declining. This trial having been made within two or three miles of the head of tide water, I think it fair to infer, that none of the thorns could be relied upon for hedges, in any of the tide water portion of Virginia. Farther south, I presume, they could still less be depended on. Of the pyracantha, I have seen but one small hedge. That was in Maryland, but although beautiful to the eye, it was evidently no protection against mischievous stock, nor did it appear capable of being made so. Our red cedar is liable to two incurable diseases, one of which seems on the increase, and is constantly killing thousands of the trees, as they grow naturally in our woods. It is a worm in the roots, that accomplishes its work of death, before the limbs and leaves give any warning of it. The other cause of their destruction is also a worm or insect, which attacks the trees above ground, and soon colonizes them with innumerable cocoons, which are attached to their tenderest branches, and soon kill them.

The Osage Orange, of which we have lately seen some very favorable accounts, has not yet, I believe, been tried in the Atlantic states; and the non-descript, or evergreen Carolina rose, I know, from personal observation, will not flourish in the latitude of Virginia. There is one remaining objection which is common to all the plants and trees I have enumerated—that is, the comparatively small portion of our country in which they grow naturally. None can be found but in particular regions, and these are of no great extent, compared with the whole territory of the United States.

My last objection to live fences, as a general system of inclosure, is altogether insuperable, unless, indeed, the old laws of entail and primogeniture were re-established. The existing law of descents, in all the states, I believe, without exception, compel a division of property, in every case of intestacy; and so much is the practice favored by public sentiment, that even where a will is made, the testator himself, in ninety-nine cases, probably, out of a hundred, directs a division. If the property be land, and it be cut up into several parts, this necessarily produces almost an entire change in the inclosures. Some must be pulled down and others put up where none stood before; and should they happen to be live hedges, to remove, is to kill; whereas either rail or stone fences may be changed, without any other expense than transporting and re-erecting them.

Upon the whole, then, I conclude that live fences, in our country, are no where preferable to those made of rails, or post and rails, unless where timber is very scarce and dear, or near large towns, where inclosures of dead wood are liable to be burned. Even there, I deem it demonstrable, that stone walls would be far cheaper, if the materials could be procured near at hand; and if not, that walls of brick would be vastly preferable, especially if made according to the cheap plan recommended in the third volume of the American Farmer, page 262, by Mr. William Noland, the present superintendent of the public buildings in Washington.* This article is so worthy of public attention, that I would have copied the whole, in this letter, if I had not feared that my communication was already too long. I must take the liberty, however,

strongly to recommend it for republication in the Cultivator.

I remain, dear sir, your ob't ser't,
JAMES M. GARNETT.

REMARKS.

We either did not sufficiently explain our object in the publications which we have made upon live fences, or have not been understood by our highly respectable correspondent. We did not intend to recommend the culture of live fences, as a substitute for stone walls in stony districts, nor for post and rail, or post and board fences, where these materials abound, nor even for substantial white pine stump fences—for like our correspondent, we think these are to be preferred where the materials are abundant or cheap. But there are large districts of our country, particularly in the west, where there are neither stones nor pine-stumps, and where fencing timber is already scarce, and likely to be more so, from which we have received frequent inquiries in this matter: And although we are disposed to pay the highest deference to the opinions of Mr. Garnett, he will pardon us for persisting in the hope, that we have plants, indigenous to our country, which will make good hedges, and that it will be found practicable and economical, in the long run, to cultivate live fences in the districts to which we have alluded. We adduce our own as a case in point. Common stone costs us two dollars a load. Wooden materials for fence are almost as expensive, and their duration, except the posts are cedar, which cost nearly fifty cents each, does not exceed ten or twelve years. These circumstances induced us to attempt to raise hedges; and to try the English and native thorns, and also the honey locust. Although we cannot confidently assert that we have been successful, we can say that we believe we shall be successful with both the native thorn and the honey locust. As yet we have experienced no injury from disease or insect, though the ground mice have done us some damage, in our hedge as well as in our fruit and other trees. The comparative expense of dead and live fences never engaged our attention, though we recollected that Caleb Kirk had endeavored to show, and to our mind had done it satisfactorily, that the latter were to be preferred on the score of economy. There are besides considerations in favor of live fences, which apply with some force in the prairie-west, and in the north, which do not apply in Virginia: they are wanted as shelter, to protect the crops from the severity of the winter blast.

With this explanation of our motives, we have no reason to regret that we have been misapprehended by our very able correspondent; because it has been the means of procuring us a valuable essay on the subject, which we feel assured will be read with interest and profit by our patrons, whose interest it is our duty to serve.—*Cond. Cult.*

Farm Machinery—Peat Earth.

Wheat-Sheaf Farm, Staten Island,
December 18, 1837.

J. BUEL, Esq.—Dear Sir,—I received your esteemed letter of the 20th ult. requesting a communication from me as to my mode of improving and fertilizing my farm, and a description and drawing of my machinery. In withholding the latter, for the present, I am actuated by an apprehension, that in so far as experience may hereafter suggest changes, I may regret having given publicity to it, while yet imperfect. It has much of novelty, and observation upon its practical movements yet continues to suggest guards and alterations, more or less essential to its operations in the most perfect state in which I may be able eventually to put it. Since I had the pleasure of shewing it to you, I have concluded, (as I believe I then suggested I might,) to adapt it to public, as well as my private, uses, by adding an eighteen horse wind power, with four run of stones, to be applied, at pleasure, independent of, or in connection with, the four horse farming and foddering power I then exhibited to you, and to make it what I call a *Foddering and Grist Mill*, for myself and the vicinity. I become daily more and more convinced it may be made both useful and economical. If it does not prove so in the sequel, I should myself call the further pursuit of it little better than folly. I never yet was disposed to "flash a sheaf," lately so prevalent, and trust not to have begun with this. Of one thing I am sure, that farmers reflecting on it in the quietude of their habits and occupations, would never feel disposed to approve it, if it could not be made both useful and economical, as well as profitable to them to do so.

In Europe, a labor-saving machine, if not a curse, at least is calculated to draw down the imprecations of the suffering poor upon the head of its inventor—while here, where we have more of labor than laborers in the vineyard, such an implement is hailed as a blessing. It, as it were, adds to the laboring population of a country yet growing towards its maturity, and the incentive which, as a substitute for labor at a high price, it gives, makes us what, from local circumstances and exigencies, we are, the most inventive people on earth.

On referring to Loudon's Agriculture, (in the Supplement, page 1277,) you will find a notice of a threshing machine, said to be one of "the most complete

agricultural implements in England," bearing some resemblance in its objects to a part of mine, but effected through a medium infinitely more expensive and complicated, and of which I had no knowledge till after mine was constructed. Erected, as that was, specially for and under the patronage and high protection of the Duke of Gloucester, Loudon mentions it "as a singular and melancholy sign of the times, that the parties who had the chief merits of the invention, were afraid of giving their names to the public." The agriculturists (says he) of a future, and we trust no distant day, will hardly believe it possible that the destruction of threshing machines should have been popular in England in 1830."

I thank heaven my lot was cast where, if I realize my views in this, there will be none to censure them; and where, above all other places, he emphatically does the human family the best service, who makes two blades of grass flourish where but one had previously languished. "If (as you say) there is a pure pleasure to be derived from human actions, it must be found in a disinterested endeavor to benefit our generation and our country." If it shall be my lot, in the *busied retirement* to which I have fled, to effect such an object, I shall, indeed, not have lived without an end, and will die comfortably.

But in reply to your letter. I can only for the present, on the subject of my machinery, say with you, that "barring accidents" and "in good time," I shall not fail to comply with your wishes. Its scope and objects, in part at least, are generally explained, if your notice of it in your August number (page 100) is referred to, and taken in connection with this letter.

As to the other part of your request, "my mode of improving and fertilizing my farm," I find that too general for one communication. I shall, "since you will have it so," on a future occasion, comply cheerfully and more at large; for the present, however, there is one you have adverted to in your last number, (page 157,) which has much interested me, under a perfect conviction I always entertained, that swamp earth might be used with more advantage than usual with us. With "Peat Earth and Peat Ashes" I was wholly unacquainted when I came to my farm; but in the process of clearing and bringing under cultivation its "worse than useless" parts, I sought information through channels similar to those to which your article refers. I have reason to thank you for the account it gives of the Dutch and Flemish practice. Their books I had sought in vain in New-York, but I am pleased to find them consistent with such as I have had access to. Permit me, in return for the advantage I have in this derived from your columns, to refer you and your readers to what I have met with on the same subject. The swamps which furnish peat earth or turf, nine-tenths of the laboring Irish emigrants are familiar with under the local appellation of a "peat moss." They generally seem to be so with the burning of it, and practically with the different modes of disengaging from it the acids which check its putrefaction, and consequent adaptation to vegetable nutriment. They have served their apprenticeship to it as agricultural laborers in the noted bogs of Ireland.

The use of peat earth led to much disappointment in Great Britain, until Lord Meadowbank scientifically explained its properties, uses and modes of application, and I believe him to have been the author of the present practice both there and elsewhere in relation to it.

Loudon says, (pages 745 to 747,) "mossy and boggy surfaces occupy a very considerable portion of the British Isles. In Ireland alone there are of flat red bog, capable of being converted to the general purposes of agriculture, 1,576,000 acres, and of peat soil covering mountains, capable of being improved for pasture, or beneficially applied to the purposes of plantations, 1,255,000, making together nearly 3,000,000 of acres. Black mosses, though formerly considered irreclaimable, are now found capable of great amelioration. By cultivation they may be completely changed in their quality and appearance, and from a peaty, become a soft vegetable earth, of great fertility."

I leave you to insert as much further of this reference as you may deem best for the guidance of your readers. It will however serve to shew, in a great many districts of both England, Ireland and Scotland, a general practice similar to that you have yourself quoted as to Holland and Belgium, and which I have no doubt prevails in the north of Europe. I had myself seen none but the *Chat moss*, over which the Liverpool and Manchester rail-road lies; but then the idea occurred to me, that it might, by drainage, be similarly applied, and as I find, by the last edition of Loudon, it now is. On draining my swamps, I discovered in the ditch, about three feet below the surface, a compact stratum, say twelve inches thick, exclusively of leaves and of minute vegetable fibre, so small as to decay under an ordinary exposure to the

* This article shall be copied into the Cultivator as soon as our limits will permit.

atmosphere, in a few days or weeks, and which, in this swamp, (as I infer from the superincumbent creation,) must have resisted decay 1,000 years or more. The mossy soil above consists entirely of the imperfect decay of subsequent vegetable growth, and which has probably not so effectually resisted decay, on account of its occasional exposure, superficially, to the influence of the sun and air during the drier seasons of occasional years of great drought.

London says, (page 345, No. 2238,) "Marl and even shell sand have been known to act chemically on peat bogs, and to produce astonishing benefits. True and genuine peat bogs contain a considerable quantity of an acid, which has some affinity to gallic acid, and often yields phosphoric acid to analysis. It appears to be these acids which confer on peat its highly antiseptic qualities, and prevent the complete decay of woody fibre in such situations. When either true marl or shell sand is laid as a manure in such soils, a rapid decomposition of the vegetable matter takes place, owing to the calcareous matter uniting with the acid, which before impregnated the woody fibre, and such land soon becomes very productive, probably also because the carbonic acid of the marl and shell sand is applied to the growth of living vegetables, as it is gradually disengaged by the union of these acids with the lime."

Deane's New-England Farmer, under the head of peat, page 323, refers similarly to it, and the mode of using it.

The Complete Practical Farmer, an American book, very generally possessed, page 30, under the head of peaty substances, also describes the process.

Sir Humphrey Davy says: "Inert peaty matter requires fermentation to render it nutritive to plants. It remains for years exposed to water and air, without undergoing change, and, in this state, yields little or no nutriment to plants. Woody fibre will not ferment unless some substances are mixed with it, which act as the mucilage sugar and extractive or albuminous matters with which it is usually associated in herbs and succulent vegetables. Lord Meadowbank (he says) has judiciously recommended a mixture of common farm yard dung for the purpose of bringing peats into fermentation. Any putrescible or fermentative substance will answer the end, and the more a substance heats, and the more readily it ferments, the better it will be fitted for the purpose. And he states that one part of dung is sufficient to bring three or four parts of peat into a state, in which it is fitted to be applied to land; but of course the quantity must vary according to the nature of the dung and of the peat. In cases in which some living vegetables are mixed with the peat, the fermentation will be more readily effected."

I have occasionally, in the absence of guides, tried these substances and tailed, and in some instances have succeeded. Two or three experiments of my own are now in progress, which are, as I apprehend, checked more or less by the counteracting tendency and operation of frost. I shall, for the present, suspend a communication already longer than I intended to have made it, again to resume it, if you wish, when I shall have better tested them. But in so far as your last number has described these substances, they are consistent with my observations, and I think undoubtedly applicable. This, however, should probably be borne in mind: I use *more* of the ashes to the acre, because my swamps contain little or no calcareous marl beneath them, and an analysis I apprehend would therefore not find so much of the sulphate and carbonate of lime as that which professor Brande analyzed. The two which you saw are incumbent on a clay marl, little if any imbued with calcareous matter, or other than of vegetable impregnation, valuable to ameliorate the texture of a soil too prevalent of sand, or to improve the capacity of upland for holding manure in solution from which alluvial influences have taken an undue proportion of clay. The marl is followed under it, in a distinct stratum, by a stiff pipe or porcelain clay, which, with the marl, made it heretofore so perfectly impervious to water, that although no other than alluvial supplies immersed it, it seldom, if ever, was known, before it was drained, to be dry. The level of the present drain is about nine feet below the former fullest water surface.

Believe me, with great respect and esteem to be, very truly yours,
W. A. SEELY.

Entomology, &c.

Bath, Feb. 3, 1838.

Judge BUEL.—Sir,—I have read your valuable paper with much pleasure for two years, and now send you the subscription price for another year. You have mentioned the Humic Acid in several of your papers as being a substance lately investigated by some of the German chemists. I would inquire if you have seen any chemical analysis of the Humic Acid, either in any work on chemistry, or in any of the journals, foreign or domestic, and if so, if you will publish the analysis, with the physical and chemical

properties of the said acid, in the Cultivator.* I made the request, last winter, to have some additional information in regard to the entomology of our country, communicated from some of your many correspondents. A class of animals that exercise so important an influence over the labors of the farmer ought to be better known. The first object ought to be perhaps to distinguish in the innumerable insect tribes between our friends and enemies. It is a well known fact to readers of natural history, that a vast and interminable war of destruction is carried on between the different insect tribes, and therefore it may be for the interest of man to encourage the conqueror in their exterminating conflicts, is an object of much solicitude and of high interest. As an instance, a few years since a remarkable insect, somewhat resembling the black wasp, but longer shaped, somewhat more like the hornet, but of a shining black, and very active, was pointed out to me as the natural enemy of the grub worm. Its evolutions when on the ground were similar to that of the hound upon the track of the hare. Its head was down, as if in the act of smelling, and every few minutes it would dig with its fore feet in the manner of the dog. At length it dug up a worm, stung it to death, and left it. On a succeeding day I saw the same insect engaged in burying the victims of its warfare. A hole was excavated in the soil sufficient to deposit the worm by the use of its fore feet. The dead worm was then seized by the forcep jaws of the insect, who drew it backwards into the hole into which it entered in rear of the worm, and from which it immediately emerged, and scraping the earth together raised a tumulus over the grave. These facts may be familiar to the professed entomologist, together with the name and the habits of the insect, although they were new to me. Another circumstance in natural history I will mention, as I have not seen it noticed by any writer.—Passing a ploughed field, in a meadow free from stumps and stones, one day in the summer of 1819, I was surprised at the notes of what I considered a fine singing bird, which I called into repetition some few times, until I discovered the melodist, which, to my astonishment, was no other than the little brown snake with a yellow ring around its neck. Had it been a bird, I should certainly have complimented it as a very agreeable songster. I have mentioned the remarks on the aforesaid insect, to illustrate the kind of information we want in regard to the insect tribes.

Wishing you every success in your laudable endeavors to enlighten the farmers of our beloved country, I am, sir, sincerely your friend,

MOSES F. MORRISON.

Farming—New Kinds of Wheat.

Galena, Ills. 22d January, 1838.

JESSE BUEL.—Dear Sir,—From my youth I have been fond of agriculture. This fact, and a desire to obtain information, are my only excuses for now troubling you; I then thought I would be a farmer, but circumstances led me to other pursuits. I wished to make a fortune before I would turn my mind to agriculture. Why was I not wise enough to say at once, I will become independent by frugality, industry, and farming? It appeared to me to be too slow a way to wealth, although I was aware of the advantages of a farmer's life, viewed physically and morally. Well, sir, after years of trouble in business, my attention was, thank God, again directed to farming, and since three years, my time has been mostly taken to that business on my farm, situate three miles from Galena. Of course, I could not be long a farmer without taking your Cultivator. I have been more than ten, yes, than an hundred times repaid, by the useful information I have received, for the small pittance I have given in return, of 50 cents per year. I see with much pleasure that you intend to increase the size and matter of your useful paper. I shall continue to be a subscriber; I will also subscribe for my brother at the office of the Galena Advertiser. When any of my neighbors call on me for information about farming, I say, do you take the Cultivator? If they answer no, I tell them, go and subscribe for it, and you will hardly need lose time to question your brother farmers about the management of your farms.

My friend, Mr. A. E. Hough, of Gibraltar, Wisconsin, gave me a few grains of your Buel corn. I will take great care of it; the pains you took to send those seeds so far, induce me to send you here inclosed a few grains of bald spring wheat, brought, at first from Lord Selkirk's settlements, on North Red River. I sowed the wheat, from which this seed was gathered, on the 15th of May last; you can judge of the quality by the specimen sent; it came to maturity perfectly,

* *Humic, humis, humic acid*.—These seem to be but different names for the same substance, and I but new names for the black carbonaceous matter of dunghills—the fertilizing material of soils. The principal elements are carbon and hydrogen, with more or less of other matters, as oxygen, nitrogen, oxides, and earths. We will speak more at large upon this subject in our next.

without smut or rust, producing at the rate of 30 bushels to the acre. I have, also, a many headed wheat, brought from Santa Fee, in New Mexico. It bears from 9 to 15 heads per straw, counting the centre and side heads. I think it differs much from the Egyptian wheat, the berries are very large, white, and plump; it is said to be a spring wheat. I sowed in a drill, (about half a gill of it) last spring, on the tenth of May. It grew luxuriantly, producing heads of such large size, as I never saw before, but at the approach of its maturity it shrivelled up, the berries being very deficient. I will plant it again, at various periods, so as to ascertain, if I can, the best moment. In the Santa Fee country it produces at the rate of 60 bushels per acre. Can you give me any information about the culture of this wheat?

I am, very respectfully, yours, &c.

JAMES G. SOULARD.

Transplanting—Potatoes—Italian Wheat—Ploughing old Meadows.

Clinton, Oneida co. Jan. 5th, 1838.

Mr. BUEL.—Sir,—As the earth is composed of atoms, and the ocean of drops, so the columns of the Cultivator may, perhaps, receive an accession of interest from sources comparatively small. A few brief remarks are all I propose to offer.

1st. With respect to transplanting. In the early part of December, 1836, I procured a lot of apple trees, and set them the next day, (roots partially froze during the night;) the ground being naked and clear of frost. The next season witnessed a fine growth in every instance; numbers of them blossomed, and one bore about a dozen apples to maturity. The suggestion I would make is, that late fall, or winter setting when practicable, is preferable to performing that operation in the spring, as the earth becomes adjusted to the roots by the long action of winter, being thereby less exposed to perish by drought or other causes.

2d. As much difference of opinion exists, whether large, small or medium size potatoes are best for seed, I made a trial of the two extremes in the following manner, viz. by planting two rows with one potato of the largest size in each hill; then two with three of the smallest in each hill, placed in a triangular form, four inches apart, soil similar and very rich. Result—the potatoes from the first two rows were generally larger than those from the other two, (though all were large, and the yield about one-sixth greater.) As truth is said to lie between extremes, as a general rule, perhaps this case is not an exception.

3d. Italian wheat. My experience here is limited, having raised but a single patch of forty-eight rods, from which I obtained eight and three fourths bushels, being at the rate of twenty-nine bushels per acre. The crop was diminished by smut, the straw bright and grain heavy, weighing more than sixty-one pounds to the bushel. I beg leave here to suggest the importance of making all statements of crops for publication, from actual measurement, both of land and product. The superiority of this variety of spring wheat is thought by many to consist chiefly in its adaptation to worn out or light soils. My field had been in tillage forty years, with, perhaps, one exception. As far as my observation extended the past season, the growth was abundant, very little injured by rust, and I am not at present willing to abandon its culture. If on further trial some other species shall be found preferable, of course they will supersede it, as improvement is or ought to be the object of every farmer.

4th. In conclusion, I would reiterate your oft-repeated recommendation, to plough up old worn-out meadows, and keep them in tillage two or three seasons. My own experience, though not great, enables me to say that on a piece of meadow thus renovated, I have for several years cut triple the amount of its former product.

I am, sir, with respect, yours, &c.

G. BUTLER.

Relative Value of Ruta Baga for Fattening Oxen.

Seaghticoke, Feb. 3, 1838.

SIR,—Believing the turnip culture to be of almost inestimable value to the farmers of this country, and knowing the strong prejudices entertained by the most of them, against any thing like innovations, or deviations, from the good old ways of their fathers, as they term them, I deem it the duty of the few, who have been credulous enough to cultivate a few acres, to say, what they can, from experience, to induce others to give them a fair trial, and a chance to grow upon a few acres of their poor sandy soil, that will hardly grow any thing else, and they will find, when the summer is passed, and the harvest ended, that they have not been imposed upon, except by the large quantity of roots. And, it was my object in commencing this article, to show what I believe to be their value, for feeding, in comparison with other grains and roots, generally used. I will first state that my crop was about 950 bushels per acre, on a light, sandy soil, without manure, ploughed but once, and hoed twice,

the whole expense, including interest of land, was less than 3 cts. per bushel, a price which I have frequently paid for digging potatoes, and the same land would not have produced 200 bushels. I fed 2 yoke of cattle on them for 2 months, viz: November and December, feed 5 bushel per day, a yoke. Average gain 115 lbs. a yoke per month. The same cattle were fed through the month of January, on potatoes and meal, corn and oats, ground together in equal quantities, feed 2 bush. potatoes, 1 bush. meal. Gain 60 lbs. Estimate the value of the ruta bage, by the present price of corn, oats and potatoes, and the respective gains, and it makes the ruta bage worth but a fraction less than 48 cts. per bushel; that is, if corn is worth 8s., oats 4s., potatoes 2s., for making beef, we must put the ruta bage at 48 cts. I will only add that the experiment was fairly tried, the cattle were weighed correctly, and eat their allowance every day.

Yours, respectfully,

JOHN C. MATHER.

Cure for the Scours in Calves, &c.

Scantick, E. Windsor, Ct. Jan. 17, 1838.

Judge BUEL.—Dear Sir,—About ten years ago I happened to observe a young man busy about a sick calf, endeavoring to force it to take some medicine, and on inquiry I found the disease to be what the farmers here call the white scour, or a drain horn of a light ash color. He was a large well formed bull calf, of the Durham breed, but was apparently near death, being excessively weak, having refused all food for several days. Believing the disease to be caused by acidity, and to depend upon a suppression of the secretions from the liver, I directed five grains of calomel to be given once in four hours, until the evacuations assumed a darker color. This was done. The white purging was checked by the first dose, and in some twelve or fifteen hours after was followed by evacuations much resembling tar in consistence and color. This change was followed by complete relief; the appetite and strength returned, and the calf proved to be a very valuable animal.

Since that time I have almost every year given calomel in this way to calves thus affected by the white scour. I have not known a single instance in which it has failed of effecting a speedy and complete cure. I have commonly advised scalded milk to be given, to prevent a relapse.

Some time last May, being at the residence of my father-in-law, I noticed one of his swine, a fine huge barrow, apparently very much exhausted, and was told that it had had the lockjaw for nearly a week previous, and that during that time, it had not swallowed a particle of food, or a drop of liquid, and that it was impossible by any means to force his jaws open, even in the slightest degree. Suspecting another disease, I directed an examination of the glands back of the angle of the jaw; these proved to be excessively swollen and very hard on each side. A deep incision was immediately made with a sharp knife into the substance of each gland, through a wound in the skin, about three inches long. Half a tea-spoonful of a mixture of calomel and lard was crammed to the bottom of the wound, and the skin being closed by a single stitch, the operation was completed. In less than two hours the hog ate freely, and in a fortnight was apparently perfectly well.

If these facts can be made useful to you in any way, you are at liberty to make what disposition you please of them.

I am, sir, very respectfully, yours, &c.

H. WATSON.

Mode of Planting Cedar Hedges.

Judge BUEL.—In looking over number 11 of the present volume of the Cultivator, I notice the method of planting a cedar hedge, as recommended by John Taylor, of Caroline county, Va. and as I should infer, also advised by the Cultivator.

I have at least as handsome a cedar hedge as I have ever seen, and raised with, perhaps, one-twentieth part of the trouble that is required to dig up and transport each plant, with some fifteen or twenty pounds of earth attached to the roots, as recommended by him.

My plan was this: on the last of the third month, (March,) 1823, a trench was first partially opened to the width of a spade; the remaining earth to the depth of nine inches, was worked to a fine mellow state, and not removed. With the aid of a small boy, in about one day, I obtained the plants from the fields, and nearly finished the planting; a single stroke with a grubbing hoe, near the plant, would loosen the soil, and then removed carefully, but without any earth attached to the roots. The plants were from six to eighteen inches high, and the roots of each dipped in water, as planted. They were placed in a single row, from four to six inches apart, requiring from 300 to 350 plants; and out of this number not one dozen failed to grow. The hedge is about forty yards in length, (separating my yard and vineyard,) and so

close as entirely to obstruct the view from the opposite side; is about eight feet high, and from four to five feet through at bottom; the average size for eight or nine years past. The annual pruning will soon reduce it to six feet high, and about two and a half feet thick.

A common farm hand will prune it in a few hours, and it then presents a beautiful appearance; the top is clipped with pruning shears, and the sides with a common mowing scythe, very evenly and expeditiously, mowing perpendicularly.

No hedge that I have met with, is more ornamental; and few are made with less labor; if care is taken to keep them well pruned, there is no danger of their not being thick enough at bottom.

If the above hasty remarks are considered worth a place in the Cultivator, please make use of them.

I am respect'y,

E. S.

Harewood Montg'y co. Md. 1st mo. 8th, 1838.

REMARK.—We thank our anonymous correspondent for the above valuable communication. The red cedar grows upon most of the Atlantic border, and we are now satisfied, that with moderate care, red cedar hedges may be made to grow and do well. We did not intend to recommend Mr. Taylor's mode of planting; in fact we did not give the matter a thought—considering Mr. Taylor's authority as sufficient. But we do recommend the above mode with two slight variations; first, that the roots of the plants be dipped in a thin grout, that is loam and water made of the consistence of porridge, and that the transplanting be delayed till the spring growth has commenced—it satisfactorily appearing, from experience as well as philosophy, that all evergreens are most successfully transplanted while in the progress of growth. It may be well, after the planting is done, to cover the ground about the roots with straw or litter, to prevent evaporation.—Cond. Cult.

Book Farming Considered.

Whalen's Store, 20th Jan. 1838.

Dear Sir,—I have been a constant and much gratified reader of the Cultivator, since its first commencement, and have taken much pleasure in introducing it to the notice of my neighbor farmers. In a few cases I have been successful, would that I could say so in all. I consider the money paid for it an investment that will be repaid to the intelligent farmer, with tenfold interest, and that too in most cases before the subscription year expires. The common objection I find, is its being "Book Farming;" to do away this absurd notion, I conceive to be of great importance; remove this film from the eyes of the agricultural community, and you have at once a large and rapidly increasing circulation. The lawyer, physician, divine, and mechanic read; and for what? to get the opinions and experience of those that have travelled the road before them; to get arguments and ideas that a life time of experience might not give. True, practical knowledge is good in all cases, as far as it goes; but how many rocks and quicksands in our journey through life should we not shun, did we but take warning from the many monitors continually issuing from the press, guiding us like beacons of light to the lone mariner in the way to the wished for haven. Agricultural periodicals bring us into an acquaintance with those far distant from us, and of whom we could know nothing, except from their communications. One sits down and gives a long list of failures before a profitable result has been attained; now in half an hour's reading we gain, perhaps, what our informant has spent years of toil and anxiety to obtain. Another gives a description of a building, farm implement, plan of draining, or making, perhaps, a fence or gate, bringing the subject to our mind's eye, in so plain a manner, that we may be said almost to have ocular demonstration of the same. Now, instead of travelling for this information, it is brought to our fire-side, where, during the long winter evenings, we can con it over at our leisure, and judge of the propriety of adopting or rejecting it. I am far from recommending the adoption of every new theory in agriculture; but when a long series of experiments have terminated in continued favorable results, then why not adopt them, particularly if reason and judgment speak to us in their favor. Let us then away with the ill-founded prejudice against "book farming," and let each farmer take an agricultural paper for one year, and my word for it, that ninety-nine in a hundred express themselves more than amply remunerated for the expense. A thought struck me, that the circulation of the Cultivator might, in many cases, be extended by an offer to refund the subscription at the year's end, should the paper fail of giving entire satisfaction; the subscriber returning the papers in order to the office, or its agents; believe me, the drawback would be small. Again, let each subscriber introduce the Cultivator to his neighbor that is without it, and see if he cannot add at least one to the subscription list; would they do so, its circulation could easily be doubled.

I can lay no great claim to either book or practical farming; but were I to be deprived entirely of reading on the subject, I should consider my progress

much retarded, and the prospect in the future a cheerless one in the extreme.

With unfeigned wishes for the success of the Cultivator, and all its kindred prints, permit me to subscribe, your ob't serv't.

J. BUEL, Esq.

SETH WHALEN.

Siberian Wheat.

Stamford, Del. co. Jan'y 19th, 1838.

Mr. BUEL.—Dear Sir,—I have read with pleasure and profit, the various communications in the Cultivator on the subject of improvements in agriculture, and amongst these, my mind has been led to the introduction and selection of the best kinds of seed, as one which ranks high in value to the farmer.

My object in this communication, is to give to the public, through the medium of your very valuable paper, my experience in the growth of the Siberian spring wheat. About the 6th or 7th of May, I sowed three bushels and four quarts of Siberian seed on three and a half acres of ground, planted the previous season with corn; the soil middling for the ridge land in this county, though never manured. The tillage, owing to unavoidable circumstances, poor, it being ploughed but once, and that poorly and lightly; harrowed one way. About one and one-fourth acres of this was thickly infested with brier roots, which sprouted and grew so luxuriantly as to destroy at least one-fourth of the crop on that part of the field I harvested 1,485 sheaves; have threshed 638, which produce 43½ bushels of first rate wheat. The sheaves threshed being an average of the whole crop, I have no doubt but I shall have 100 bushels.

The above is the result of my first crop under very disadvantageous circumstances. Were I to venture an opinion of a future crop with good tillage and favorable season, it would be much larger; but I find "guess work" meets with a rebuke.

I will, however, venture one comparison, since I have reduced it to matter of fact. In the same field with the Siberian I sowed my common spring wheat, on land equally as good and tillage the same, with the advantage in favor of the common, that it was sowed at the rate of one and one-fourth bushels of seed to the acre, and in consequence of the grain being smaller, I judged that there was twice as many plants on a given quantity of ground of the common, as there was of the Siberian. Both sowed the same time. The common came in about one week before the Siberian. Both kinds full and plump kernel. The straw of the common somewhat rusty, and some smut; the other straw bright and lustrous, and no smut. The common produces eighteen bushels per acre; the Siberian, as you will see, making a fair allowance for damage done by briers, about thirty-three. I saw also, on examination, considerable of the works of the Hessian fly in the common; only two plants in the other.

Thus I have endeavored to give the public a fair and candid statement of my experience in growing the Siberian spring wheat. Whether it will be considered very like a "bed-bug," or another "harbinger of summer," I cannot tell.

Yours respectfully,

GEO. STURGESS.

Ruta Bage—Italian Wheat—Crops generally.

Oxford, Jan'y 14th, 1838.

DEAR SIR,—I made a good crop of ruta bage last year. Not as large crop as others have mentioned, but it was a fair crop, 360 bushels from half an acre, from seed I bought of you, and they were good. I find them excellent food for all kinds of stock. Fat cattle, cows, horses, sheep and hogs, improve well on them. I think them excellent for sheep. They appear to be well calculated for villages, where land is high, and the occupants wish to obtain the most possible feed from a little land. I consider the root culture as of great importance, and increasing rapidly.

The Italian wheat did well, better than any other kind. I sowed two bushels, and some of it lodged, and did not fill so well, as the ground was too rich. However, I got forty-five bushels of excellent clean wheat, weighing upwards of sixty-one pounds to the bushel. It sells freely for three dollars per bushel. I have ground a few bushels, and it makes better flour than I can buy. My son-in-law carried six bushels last spring to Pine Creek, Tioga county, Pennsylvania, and calculates on 150 bushels; and he informs me he could take five dollars per bushel if he would sell it. He means to sow fifty bushels this spring. It has done so well hitherto.

Potatoes, oats, barley, grass, &c. have done well last year. Apples were mostly spoiled before gathered the two last seasons. The winter has been soft so far. Some people have ploughed in January.

Cattle sell well. I sold a pair of four year old steers for 140 dollars, in September, after using them all the spring, and till that time. They were the short horned Durham in part. I think that half bloods of that breed answer our purposes for cows, oxen and for beef as well as any. Those cattle I sold had ne-

THE CULTIVATOR--EXTRA.

ALBANY, MARCH, 1838.

N. Y. State Agricultural Society.

The society convened pursuant to adjournment at the City-Hall, in the city of Albany, on the first day of February, 1838. The President took the chair; HENRY S. RANDALL, of Cortland, was appointed Secretary *pro tem*. After some preliminary arrangements, and for the purpose of enabling the State Agricultural Convention to be organized, the society adjourned to meet at the City-Hall on Friday, February 2d, at 10 o'clock, A. M.

City-Hall, Friday, February 2d, 1838.

Mr. Buel, from the Board of Inspectors, appointed at the last annual meeting of the society to examine and test the merits of new farm implements, reported that the board met in July last, and examined various farm implements, which were exhibited for their inspection. [For report see Cultivator Vol. iv. No. 6.]

The Treasurer of the society presented his annual report, which was read, accepted, and ordered to be filed.

Mr. Buel read a letter from Anthony Dey, of New-York, embracing copies of letters from J. W. Glass, of London, in relation to a new and improved process of manufacturing sugar from the beet. A copy of this communication was requested for publication, and is as follows:

New-York, 23d January, 1838.

Judge BUEL,—Dear Sir,—I send you copies of four letters I have received from Mr. J. W. Glass, of "Clapton, London," on the subject of making beet sugar. I have supposed the best service I could render the country, was to transmit the information to you, and perhaps some one or more of the 20,000 subscribers you have, may find it to their advantage to correspond with Mr. Glass on the subject. Please make use of so much of the information conveyed as you may deem best to answer the desired purpose.

With great respect and esteem, I remain, y'r m. ob.
A. DEY, 63 Cedar-st.

Clapton, London, 1st Nov. 1837.

ANTHONY DEY, Esq. New-York:

Dear Sir,—Aware that you are a great promoter of scientific improvements, I beg leave to inform you, that a gentleman of my acquaintance has taken out a patent for a very valuable discovery in the manufacture of sugar from beet root, (and equally applicable to maple,) which, after paying to government the protective duty of twenty-four shillings per cwt. he can afford to sell at half the price of West India sugars. By his process he can extract the saccharine from the beet all the year through, whilst under the process now employed in France, &c. it can only be extracted about three months in the year. He has been offered £70,000 sterling for his patent for England, but will not take less than £100,000. It has occurred to me, that if the soil of the United States be adapted to the culture of the beet root, a joint stock company might be formed in New-York, which would find favor with the public, and become a profitable speculation.

Your early and candid opinion on the subject will much oblige, dear sir, respectfully, your most ob't servant,
J. W. GLASS.

Clapton, London, 7th Nov. 1837.

ANTHONY DEY, Esq. New-York:

Dear Sir,—I refer to my respects of 1st inst. on the subject of the latest new invention for the extraction of sugar from beet root, and now beg leave to hand a few more particulars for your information, calculated, including the enormous duty of 24s. per cwt. levied by this government, from which I presume the process in America would be exempt.

The best French works are said to extract from one cwt. beet root six pounds of sugar and three pounds of molasses; by the new patent nine pounds of sugar is extracted, but little or no molasses. The French mode, therefore, gives six pounds of sugar at 6d. and three of molasses at 2d.: total 3s. 6d.; the new patent, nine pounds of sugar at 6d.: 4s. 6d. The average price at present, of West India sugar, is 37s. per cwt. Supposing the expense of extraction similar, the product would be 1s. per cwt. or 20s. per ton of beet, more than on the French plan. The raw material, no doubt cheaper with you, would cost 15s. per ton, therefore, any improvement causing an extra product of 20s. per ton, would be 133 per cent on the raw article, besides the profit on the old French plan. The statement is the following:

Cost of 1 ton of sugar beet, 15s.
Manufacturing 12s. or say, 15s.

Cost, 30s.

Produce.—180 pounds of sugar, at 6d. 90s.
Less duty, at 24s. per cwt. 38s. 6d.

51s. 6d.

Value of refuse, the pulp being used by paper makers, 2s. 6d.

Cost, 54s.
Profit, 30s.

Profit, 24s.

From these calculations I leave you to judge how far it might prove lucrative speculation, and I request your candid opinion of the best mode to carry it into operation in the United States.

Waiting the favor of your reply, I remain, dear sir, your most ob't servant,
J. W. GLASS.

Clapton, London, 13th November, 1837.

ANTHONY DEY, Esq. New-York:

Dear Sir,—Referring to my respects of 7th inst. permit me to add a few words more for your consideration, in exemplification of the extract of sugar from beet root by the new process. The cost would not, without duty, exceed 2d. (4 cents) per pound.

Land in this country, ready for planting, rented at £6 per acre, stands, with cultivation, in not quite £10 per acre; the produce averages fifteen or twenty ton per acre. We can contract with growers in different parts of the country at 15s. per ton.

The question is, at what price can it be produced (*delivered*) in America? We have coals in Bristol, Liverpool, &c. at ten shillings per ton. Here we beat you. As to the value of the patent, my Bristol friends say that £100,000 may be too little for it! So much depends on the profit to be made by it, the security from invasion, and the mode of payment, I should think it would be a splendid thing for America; and waiting the pleasure of your advice, I remain, respectfully, dear sir, your most ob't servant,
J. W. GLASS.

The invention would be equally applicable to the maple, or even the sugar cane.

London, 8th Dec. 1837.

ANTHONY DEY, Esq. New-York:

Dear Sir,—I am on the point of concluding the formation of a joint stock company, for the extract of sugar from beet root, alluded to in my former letters, with a capital of three hundred thousand pounds, one-third of which goes to the patentee, a part in money, the rest in shares. I have already explained to you that this sugar can be produced here, paying 15s. per ton for the beet root, at four cents per pound; and as the raw material may probably be grown cheaper in America, there may be an advantage; and hence the patent of discovery may be found quite as valuable there, as it is here. There appears to be a great many in, as the last quotations from New-York give New-Orleans sugar, wholesale, at 8½ to 9 cents, and lump 14 to 16 cents.

I look with some anxiety for your opinion on the subject; and remain, dear sir, your most ob't servant,
J. W. GLASS.

Mr. Duane, of Schenectady, from the committee to collect statistical facts in relation to the silk business, stated, that the chairman of the committee, Judge Spencer, was absent from the United States, and asked further time to report, which, on motion of Mr. Baldwin, of Onondaga, was granted.

On motion of Mr. Buel, it was
Resolved, That a committee be appointed to confer with the members of the legislature, and particularly with the agricultural committees of the two houses, on the expediency of making an appropriation of public moneys in aid of the improvement of our husbandry.

The chair named, as the above committee, Messrs. J. B. Duane, of Schenectady, A. McIntyre and J. Buel, of Albany, J. J. Viele, of Rensselaer, and A. Van Bergen, of Greene.

On motion of Mr. Allen, of Erie, the president and secretary of the society, were added to the committee.

On motion, Messrs. Duane, Buel, and Van Bergen, were appointed a committee to report to the society names of officers for the ensuing year.

Mr. Duane, from the above committee, reported the names of the following officers, and the report was unanimously adopted, viz:

JOHN P. BEEKMAN, of Columbia,	President.
ANTHONY VAN BERGEN, of Greene,	
W. A. S. NORTH, of Schenectady,	
ARCHIBALD MCINTYRE, of Albany,	Vice-President.
ALEXANDER WALSH, of Rensselaer,	
HARVEY BALDWIN, of Onondaga,	
J. BUEL, of Onondaga,	Corresponding Secretary.
JOHN WALSH, of Rensselaer,	Rec. Secretary.
CALEB N. BEMENT, of Greene,	Treasurer.
JOHN TOWNSEND, of Albany,	
JESSE BUEL, of do.	
ALEXANDER WALSH, of Rensselaer,	Exe. Committee.
H. D. GROVE, of do.	
L. F. ALLEN, of Erie,	

Mr. North introduced the following preamble and resolutions, which were adopted:

Inasmuch as the object of this society is the improvement of agriculture in all its branches,—and as the speediest way of diffusing agricultural knowledge, is by eliciting from its members, whatever of experience they may have gained in those departments of farming, to which they have particularly turned their attention; therefore,

Resolved, That committees of two be appointed to furnish the society, at its next annual meeting, reports on the following subjects:

1. On farm yard management, as it relates to the win-

tering of cattle and the augmentation of manures. [Committee, Messrs. North and Duane, of Schenectady.]

2. As regards the feeding and management of sheep in winter. [Committee, Messrs. Rotch, of Otsego, and Grove, of Rensselaer.]

3. On the most approved method of stall feeding oxen and other neat cattle. [Committee, John Sanford and Dan. Brandley, of Onondaga.]

4. On the best vegetable or root crops for feeding cattle, and the best manner of cultivating the same. [Committee, Messrs. Buel and Bullock, of Albany.]

5. On the most profitable mode of fattening hogs and rearing swine. [Committee, Messrs. Bement, of Albany, and McDonald, of Washington.]

6. On converting weeds, green crops, and vegetables into manure, and forming composts, and the application of different kinds of manure to different soils. [Committee, Messrs. Ball and Walsh, of Rensselaer.]

7. On the effects of lime and its application to different soils. [Committee, Messrs. W. Gaylord, of Onondaga, and J. J. Viele, of Rensselaer.]

8. On meadow and pasture lands, and the best modes of renovating them, and of seeding down lands to grass. [Committee, Messrs. L. F. Allen, of Erie, and Matthews, of Cortland.]

9. On the proper time to cut timothy and clover, and the most approved method of curing the same. [Committee, A. Van Bergen, of Greene, and S. Towsley, of Onondaga.]

10. To digest a plan for the improvement of our common roads. [Committee, Messrs. Cheever, Buel and McIntyre, of Albany.]

The society then adjourned to meet at the Assembly Chamber, at 4 P. M.

Assembly Chamber, 4 P. M. Feb. 2.

The President delivered the following

Address.

GENTLEMEN:

Having been selected by your partiality, more than my fitness, to fill the office of president of this society for the last year, it is made my duty at the expiration of the term to address you. In doing so, I could wish to make it more than a simple matter of form. Were my abilities equal to my inclination, I would throw around the great subject we have met to discuss and improve, the most captivating eloquence, and the most convincing argument. But, gentlemen, I make no pretensions to the first; and, being a farmer by choice, if I can impart any interest to my subject, it is in the lessons I have drawn from my own practical observations in husbandry.

On an occasion like this, two years since, we were favored with an address from a most worthy and liberal minded member of this society, but who is now no more, on the necessity of educating our young men for farmers, and thus to make them more fully appreciate the responsibilities they owe to the advancement of their profession, to their country, and to society. On a similar occasion last year, the subject selected for our consideration was, a history of agriculture from the earliest time until that period. Both were topics important and interesting, and peculiarly calculated to awaken our attention, deepen our impressions, and make us better and wiser men. I could wish to impart an equal interest to the subject I have chosen; and that is, what ought to be the next step in the farther improvement of agriculture.

All who hear me will doubtless agree with me, that as husbandry was the first instituted, so it is still the most important pursuit of man, and therefore, whatever tends to its improvement, is another advance towards the attainment of a common blessing. All will likewise concede, that ours has heretofore been more a laboring of the hands, than the head; and that, whilst we have literally fulfilled the command to "earn our bread in the sweat of our brows," we have not opened the sources of knowledge, and called science, which has shed so much light upon other subjects, to the aid of labor, but have been willing to plod on content, in too many instances, with the annually reduced pittance we have gleaned from the soil. But, can it be that science, which affords us so much intellectual gratification, and has opened so many fountains of wealth; which has made us more conversant with the innumerable works of the Deity, and enlarged both our enjoyment and capacity ten thousand fold—can it be that she is forbid by the farmer to enter his domain, lest she should teach him lessons that may mortify his pride, or alarm his prejudice? Or will he assume the ground that agriculture cannot be improved; that we have arrived at a point beyond which the products of the soil cannot be increased, and we must be content with our husbandry as it is; that farther innovation cannot advance it; and that however much the mind has done for other pursuits, ours admits of no deeper research nor clearer investigation? Gentlemen, could I be persuaded to adopt this opinion, I would erase my name from the roll of the members of this society; for to me the great charm of agriculture is the hope of its advancement. I cannot think that a God of infinite wisdom, who gave the immortal mind to man, with powers to look into the world around and above him, and by his intellect to make all in the universe subservient to his interest or

his wants—has decreed, that in the cultivation of the soil, which contributes so largely to his support and happiness, man is forever to follow only the dictates of instinct, and not the lights of reflection and reason. No. Our mental faculties are the noblest part of our creation; they give us command over the beasts of the field and the fowls of the air; they enable us to comprehend and know God as the Author of our existence, and the giver of our bounties; and it is the improvement of them only that can make us acceptable in the sight of Him, who is himself both omnipotent and omniscient. The brute may perish, and the works of our hands crumble by time, and be lost in the lapse of ages; but the immortal mind, enlightened by the study of the past, and looking with hope to the future, stretches forth her sleepless energies to understand creation as it is, and ultimately take home with her the sublime pleasure that the acquisition of knowledge has imparted. Can not then the mind be made to operate upon the stubborn soil, to make her more abundantly yield her increase? Most assuredly it can; if we but call to our aid all the light which science has shed, and is shedding, and diligently and systematically apply it, our calling will not lag behind other avocations in the steady march in improvement.

When we take a view of the works of Deity, we are lost in astonishment at the comprehensiveness of the mind that conceived, the power that created, and as far as we can follow them, the beautiful and exact laws that regulate and control the whole machinery of animate and inanimate nature. We see order, the first law, the great law that governs equally the movements of the world, or the formation of the most insignificant insect. If we go farther, we see it is given to finite man, when he makes one branch of the works of the Almighty a subject of study and reflection; if he first looks back and sees how far others have gone, compares their ideas with his own; takes constant advantage of the thousand arguments that nature is beautifully and daily unfolding to his view—if he arranges his materials and gives a systematic operation to all his movements and thoughts, persevering in his plan, and never doubting of ultimate success,—we see him at last bring order out of confusion, and what was before slighted because it was not understood, now becomes of importance as we are made acquainted with its uses. It is to labors like these, that we are indebted for our knowledge of astronomy, chemistry, geology, botany, languages, &c. &c. and all the advances in the sciences and arts that contribute so much to the happiness and intelligence of civilized man. But to an uncultivated intellect, that does not avail itself of the labors of the past; where the mind has not been expanded by reading and reflection; whose notions are of one kind to-day, of another kind to-morrow; where conjecture supplies the place of arranged facts, and prejudice is a bar to a just elucidation of the laws of reason and nature; where all is crude, confused and mixed up—the good with the bad, the useful with the useless, sense with nonsense, and reason with folly—and united, too, as they are, with a boastful desire to give opinions to the world, as the emanation of reason, and the clear results of a long experience; what else must follow, but that darkness will continue to cover the land, and gross darkness the people. These last observations apply with a peculiar force to the past and present state of our farming operations. Although we have cultivated the earth for thousands of years, we have yet no arranged system of action, and the beautiful law of order, which God has stamped upon this as one of his works, we do not yet understand; for we have not yet learned to reason from cause to effect. To be sure we sow in spring and reap in autumn, and gather into barns to supply our wants, and those of our flocks. But did not our father Jacob do so? did not the patient Job do so? and likewise Boaz, the kind-hearted husband of Ruth, at least five thousand years ago? And what has been done for the advancement of agriculture, between these generations and ours? It is a fact, gentlemen, that something like improvement in farming has taken place only within the last fifty years. It commenced in England and Scotland, and these countries have for some time experienced the benefits of what they call their improved husbandry. Within that time they have doubled their products, but in one important point they have a manifest advantage over us; that is, they can employ three hands as cheaply as we can one, and have their board in the bargain. Still, although much has been done there to increase the products of the earth, yet, in my humble conception, radically and permanently to improve, they must adopt another and better plan, and instead of raising farmers by instinct, they must be reared by education. Instead of a man of any age turning farmer, and at once ignorantly triumphing in his success, and boasting of his knowledge, he must be taught by a dear-bought experience, that he has undertaken a business he does not understand, because he cannot compete with one who in early youth has had his mind expanded by both scientific and practical culture.

We have all seen the absolute necessity that the lawyer, the physician, the manufacturer, and the artisan, should go through a regular course of study, reflection and practice, to fit them for the proper discharge of their respective duties. Think you that in the noble science of farming—for science I will call it—less of education, study and reflection are necessary? No, gentlemen. Depend upon it, if we are to place husbandry upon a stable basis—if we wish to see this broad and fertile land covered with the habitations of plenty, and containing a happy and prosperous people, we must

give an early direction to the human mind, to enable it to comprehend and fully grasp the subject. We must come back to elementary principles, and ascertain the different ingredients of which the earth is composed; we must understand their structure, combination, and uses, and what acts upon each with most effect for the benefit of man. These are studies sufficient to engage the undivided attention from early life to its close; and even if we should fail in our first attempts, still we would ultimately place husbandry upon so firm a basis, that nothing would be wanting to secure the full fruition of our labor, but the smiles of a beneficent Providence. To accomplish these desirable objects, a young man must first have a good school education; he must then be taught chemistry, geology, and botany; have a knowledge of mathematics, and perhaps mineralogy, with so much of entomology as is necessary to guard against the mischievous effects of insects. These are some of the hand-maids to the knowledge of agriculture, which, to insure success, must be carefully cultivated.

To lay the foundation in early life for an agricultural education, what would be so useful as an agricultural school, where not only these, but many other collateral branches would be taught, and from which, if a young man graduated, it would prepare him not only for usefulness in life, but accomplish him as a man of science and a gentleman. It would open his mind to view agriculture in a different light from the generality of farmers. He would understand how cause operated to produce effect, and how he could give most efficiency to his labors. From mathematics, the science which contemplates whatever is capable of being numbered or measured, it would lead him to a correct knowledge of practical mechanics, the application of the principles of power and land mensuration. From chemistry, the science which enables us to discover the peculiar properties of all natural bodies, either in their simple or compound state, he would learn to analyse the different kinds of soil, ascertain wherein they differ—what combinations are the most useful, and, if possible, in what the principles of fertility consist, and what must be added or taken away to make barren or degenerate land more productive. The doctrine of manures cannot be understood without a knowledge of chemistry; and it is a subject so extensive in its application to farming purposes, that it must be the A, B, C, of the farmer's education. Geology, and, if necessary, mineralogy, would teach him to discriminate between the different kinds of substances the earth is composed of, and give him a correct knowledge, not only of what the surface of the soil consists, but what is buried beneath it. Botany, the science of plants, or that part of natural history that relates to vegetables, would teach him to ascertain their different uses—discriminate the exhausting plants from those that are less so—the locations most favorable to their growth—the seasons for their production and reproduction—their laws of generation—the alternation that ought to be observed for the best development of their powers, so that whatever plant was cultivated, it would be the best and most valuable of its kind. These are some few of the studies, upon which we have entered somewhat into detail, that should be taught in such an institution. The mind, however, would not only be regulated and instructed, but habits established quite as useful to the full development of the bodily powers. Would nothing, think you, be gained by instilling principles of virtue, of regularity and order—by forming habits of industry, teaching a correct moral deportment, and discountenancing idleness and vice? Permit me here to particularize and point out in a single instance the benefits that would follow the adoption of one simple rule—that is, keeping farm accounts—entering the debtor and creditor account of the farm, and making out an exact statement of its profit and loss. Or you may go farther, that of each lot and each animal. If you ask what special benefit would flow from the practice, I answer, you can at once calculate the relative value of your farm, either in whole or part—the expenses of its cultivation—the annual cost of your household—the profit on each lot or animal, and as a general result determine whether you are gaining money or losing it. If making, to continue; if losing, to quit before bankruptcy follows. Besides you may graduate your family expenses by it, and at one glance you may ascertain your exact standing in a pecuniary point of view in the community. Why does a merchant keep his accounts but to regulate his business by striking his balances? Ought not the farmer to be equally particular? The time will come when he too will make his regular daily entries as necessary to the successful prosecution of his business.

We have dwelt on this one item, simply as an elucidation of the general argument in favor of education; but suppose, to quote the language I have used on a former occasion, a State Agricultural School, under a proper course of instruction, to contain two hundred students, and a course of studies to last three years. It would send each year, after the termination of the third, nearly seventy young men, so educated into the different sections of our state. Their knowledge of theoretical and practical farming would be generally diffused; and continue this number for many successive years, it would give thousands of the best farmers, scattering them through every portion of the state. And here let me ask, who is so much of a skeptic as not to believe, that agricultural knowledge would be increased by so great an accession; and, in consequence, agricultural products be prodigiously multiplied? But, this is not all; our school would not only send her missionaries of intelligence and industry through this state, but all her operations—so far as competent professors could dis-

charge their duty of instructing or experimenting—of collecting, comparing and examining all that was most familiar or rare—ornamental, useful, or profitable, in each of their peculiar departments—in a short time we would have a farm and collection, which would vie in extent and appearance, and much exceed in usefulness, the far-famed gardens of London or Paris. Probably at no time in the history of our state, could an agricultural school be founded under as favorable auspices for ultimate success, as at present. By the establishment of agricultural journals, a taste for that kind of reading has been created; our citizens are alive to farther improvements, for they have heretofore felt the want of them. The efforts made and making to give a more thorough school education to our population—the ability of our citizens to contribute whatever may be required to carry the object into effect—the easy transmission of produce through every portion of our state by our rivers, roads, canals and rail-ways—the facility of communication with New-York, one of the best markets in the world, all are so many aids to the successful completion of the plan.

Should this school go into operation, and carry out the great principles of its founders, the time will, must come, when every citizen will be proud of it as a state institution; when those who have been its friends, will gladly come forward and claim the honors to which they will be entitled, and the present state authorities will take a pride to date its commencement as coeval with their administration of power; for, besides being a test farm systematically managed, its manufacture and collection of the various farm implements, its specimens of geology, mineralogy, and botany; the exhibition of its animals; the order and regularity of all its operations in husbandry; the circulation among our farmers of useful intelligence collected there, either from practice or experiment; the aids it will give to our agricultural journals, and above all, the young men it will yearly send out to every portion of our country to vivify by their intelligence, and fructify by their industry, whatever place they settle in; will be so many claims to popular favor, for they will be constant and living evidences of its great usefulness.

On motion of Mr. Fry, of Montgomery,

Resolved, That the thanks of the society be presented to the president, Dr. Beckman, for his very able and highly interesting address, and that a copy be requested for publication.

Mr. A. Walsh, of Rensselaer, from the committee to report on the subject of horticulture, and the household arts, presented the following report, which was read and adopted.

Horticultural Report.

The committee appointed to "inquire into the necessity and importance of an increased attention to Horticulture and the Household Arts, as intimately connected with the improvement of Agriculture," beg leave to report—

That on investigating the subject in pursuance of the duty assigned them, they have become deeply impressed with a sense of its importance; and they regret that the necessary degree of brevity will only permit them to touch the mere outlines of some of the most prominent arguments which present themselves in its favor.

By the term horticulture, they understand that portion of agriculture which embraces the labors of the garden—the cultivation of vegetables, fruits, &c.

It is strange, as well as lamentable, that though this appears especially designed, by the Creator, as the first and most important employment of man, yet while every useful art is improving and perfecting by the light of science, this most valuable art should be left to grope in darkness—its value remaining unknown and unappreciated. All, therefore, that your committee can do is, to endeavor to awaken the public mind from the apathy under which it sleeps on the subject; to remove the strange prejudice which exists against it; and to open a way for the reception of those spontaneous rays of light which present themselves from luminous sources.

And here, at the outset, your committee feel under peculiar embarrassments; for what arguments can be offered, to awaken to understanding the mind of him who can discover no profit, or receive no pleasure, from a well cultivated garden.

It is in vain that Infinite Wisdom has exerted its utmost skill in forming, perfuming and painting flowers to decorate his path, and sweeten the toils of life, if the same power has denied him a mind susceptible of the enjoyment. The depravity of public taste, with respect to gardening, has given currency to a common saying, that "good farmers seldom have good gardens," but never was a sentence more in opposition to the truth. It is so completely so, that if we look on even a remote corner of a farm, and see it well fenced and cultivated, we may almost rest assured that on visiting the dwelling of its owner, we shall find a neat, tasteful and well stocked farm garden. Indeed, so intimately connected are the moral and social virtues, with a taste for admiring and improving the beauties of nature, that we can rarely find one without the other. There is, perhaps, no other earthly subject so well calculated to awaken and expand every faculty of the mind, and fill the soul with pleasing admiration, as a garden of culinary plants, fruits and flowers, where art and science have done their duty in assisting nature.

Horticulture, both as an art and as a science, has undergone great improvements, in several countries in Europe; and it must be painfully mortifying to an American of patriotic feelings, who is acquainted with the

subject, to see respectable foreigners, in passing through our country, notice the almost total neglect of this beautifying, and moralizing branch of social economy.

The mode in which agriculture, if it can be so called, has hitherto been conducted, had its origin, no doubt, in the circumstances of the early settlers of our country. Those pioneers were not in situations to indulge refined taste; being only enabled by their utmost exertions to procure what would barely sustain life; and pecuniary necessity compelled them to cultivate such simple articles as they could dispose of, in mass, for immediate relief, and the state of society afforded no market for fruits or garden vegetables. This state of things established a distaste for any thing to gratify the eye or the palate, beyond bare necessity; and this distaste has continued with little improvement to the present time.

But a few, among those engaged in agriculture, have discovered that, by rational improvements in the system, not only the same ground, with the same labor, might be made to double, and even quadruple its former productions; but that horticulture, tastefully and judiciously managed, is calculated to improve the mind, to excite and expand the intellectual faculties; and especially to increase wealth, at least as much as any other branch of agriculture.

The ancient prejudices against horticulture, are now beginning to be overcome, by the convincing evidence of successful results, and some of the more industrious and thinking farmers begin to see that a well selected assortment of choice fruit yields a greater profit, than perhaps any other crop from the same ground; that the choice new garden vegetables cost no more in cultivation than the most coarse and common, while they add comfort and healthy variety to the table, and lessen the heavier expense of animal food. They begin, in a few instances, to find that the value of a farm depends not so much upon the number of acres as upon its judicious mode of culture, and its productiveness. They see that a handsome and convenient, but not a large and extravagant dwelling, surrounded by fruit and ornamental trees, but more particularly a well stocked farm house garden, not only increase their comforts and respectability, and even their wealth while in possession, but if they wish to sell, attracts the notice of purchasers and enhances the price.

Our forests abound with maple, elm, ash, and other elegantly formed ornamental shade trees, which we would recommend our agriculturists to plant along the road side, bordering their homesteads. They will thrive in almost any situation, and add beauty and value to their possessions and improve the general aspect of the country. "We never pass a tree which has been planted and nurtured by man, but we feel gratitude and respect towards the hand that done it." The cultivation of the Mulberry and the growth of timber, particularly live oak, locust and cedar, deserve the highest consideration; such trees being required, and commanding a high price for ship building, and in our growing manufactures.

In short, from the palace to the humblest cottage the business of horticulture, when carried to the perfection of which it is susceptible, appears to your committee, to be calculated, above all other branches of industry, to improve the mind and manners; to increase and multiply the comforts, and promote the wealth and respectability of the community.

We would therefore recommend to all, to use all justifiable exertions to excite a more general taste for horticulture, and to promote a more thorough and generally diffused knowledge of its principles and practice.—To this end, we would recommend, that those who have any knowledge of the subject would communicate it to those who have none, and that more general attention should be paid to the various periodicals which are published and publishing on horticulture, and subjects connected with it—and they would also suggest, that should the honorable legislature think proper to lend their aid to the subject, as they have done in some of the other states, much might be effected by their employing and paying some suitable person to write or compile a text book, as a manual for the use of farmers and mechanics, on horticulture and the household arts, and particularly on the subject of the growing of silk.

With respect to the "necessity and importance of the household arts," your committee are fully convinced, that, in the thriftiness, and good regulations and consequent happiness of society, as much depends on good housewifery as on good husbandry. It is a common saying, that "the man who would thrive must ask his wife." These arts are not only more numerous and complicate, but susceptible of even greater improvements both from the aid of science and the dictates of common sense, than those which belong to the outdoor economy; and they principally belong to the female department. The culinary arts alone embrace a more extensive and complicated system of knowledge than probably appertains to any one trade in the compass of the mechanic arts. On that system depends, not only our comfort and satisfaction in eating and drinking, and our health in the choice and preparation of food, but our prosperity in the economy of its management. The important business of the dairy depends almost entirely upon the skill of the housewife. But a few years ago they were the sole manufacturers of most of our clothing, and still a portion of it depends for its formation on their ingenuity and industry; even in the cottages of the poor, we may often admire the talents of the industrious housewife where

"The nither, wi' her needle an' her shears,
Gars o'ld claes look amais at weel's the new."

But these important domestic arts, on which our comforts and prosperity so much depends, are too much neglected and despised. It is the duty, and ought to be the pride of every mother in America, to teach her daughters, first the most substantial and all important arts of good housewifery; and next to call forth and excite to action all their surplus ingenuity, diverting it into such channels as will elevate our national character, and by lessening dependence on foreign nations, promote the independence of our own.

It is natural, and perhaps proper, for females to delight in finery; and to this end, nature has invested them with sprightly intellects to invent, and delicate fingers to construct it. But instead of availing themselves of these precious gifts of nature, our females generally appear to have almost wholly lost sight of, or never to have possessed a spark of that national pride which would prompt them to turn those talents to their own advantage. It would be deemed an insult to say that they have not as much inventive talent and refined taste as the females of France, and yet they appear to have cultivated a spirit of emulation to outdo each other in servile dependence on French fashions and French finery; (which fashions and finery do not arrive here, until cast off in France, so that the summer dresses of that country become the unsuitable winter dresses of this,) until by extravagant importations of those articles, added to the immense amount paid for silk beyond our means, we have continued to plunge our country into a state of pecuniary distress, from which it will not soon be extricated. How much more independence should we display if our females would employ their leisure hours, and exert their ingenuity, in constructing ornamental dresses suited to our climate, according with their own refined taste, and let the French follow their own fashions, or servilely copy ours if they please.

Those of our young females who are destined to receive what is considered a polite education, are by the present national public taste, studiously kept ignorant of any thing which can contribute in the slightest degree to the future benefit of their families or themselves. Thus, in most of the more opulent families of the community, those important arts on which domestic comforts so greatly depend are left to the sole possession and management of domestics.

It is, therefore, of the highest importance, that females who are coming on the stage of action, should receive such education as should fit them in a greater degree for the important stations they are destined to fill.—Without rejecting what are justly considered polite accomplishments, every female who is to become the head of a family, ought to have a thorough theoretic and practical knowledge of all the arts which appertain to cookery and systematic household arrangement. This knowledge would be greatly enhanced by an acquaintance with some of the natural sciences, particularly chemistry. Indeed, so important is a smattering of that branch of science, in every part of household economy, especially in the management of a dairy, that no female ought to be considered well educated without it.

But there is one branch of the household arts which your committee would strongly recommend.

By the aid of labor saving inventions, females are relieved from a great and tedious part of their former labors, and they have consequently now a considerable portion of leisure.

There are many little household arts, by which they could manufacture little articles, which would command fair prices in market.

Many of these arts have been introduced by necessity in other countries; and a little attention to the subject would render them sources of profit here.

There is one which we would earnestly recommend, as paramount to, and probably superceding the necessity of any other. This is the growing and reeling of silk. This is, perhaps, as pleasing an employment as the human faculties can be engaged in. It is inseparably connected with a branch of horticulture, and will need some male assistance in cultivating the Mulberry trees, and erecting necessary fixtures. But the growing the silk is the appropriate work of women and children. It is periodical, leaving long intervals of rest; and the reeling is a light, easy and social employment, peculiarly calculated for delicate female fingers.

The profits arising from this business will be equal, if not superior, to those of any other branch connected with agriculture; and will need no other time devoted to it in the female department than is now devoted to leisure. It is now the heaviest item of our importations, and will find a sure market among ourselves, or will command a high price in return for its exportation.

Your committee, therefore, would most fervently urge that a proper attention to horticulture, effecting by art and science all the improvements of which it is susceptible, and similar attention to the household arts, as of the highest national importance, particularly the growing of silk, affording the surest guarantee to the independence and prosperity of our union.

Your committee would also strongly urge the importance of County Fairs, as one of the most efficient means of improving both agriculture and horticulture, and the household arts, by awakening ambition and exciting a spirit of emulation in both sexes. These Fairs would, as they have already done in many places, call forth new displays of ingenuity—choice products of the farm and of the garden, in needle work and miscellaneous subjects; and we think the legislature would do much to exalt the national character by appropriating a small

fund to each county, that may have its rural society for the support of such Fairs.

All of which is respectfully submitted.

ALEXANDER WALSH, Chairman.

Mr. W. A. S. North, of Schenectady, read the following Report on the subject of Neat Cattle, which was accepted.

Report on Neat Cattle.

In drawing up the following remarks in pursuance of a resolution of the Society, passed at their last meeting, your committee have had some difficulties to encounter, the greatest of which has been the want of that personal communication with each other, which the importance of the subject demanded, and which has compelled them to put off the drawing up of the Report to the last minute. Of the many subjects relating to rural economy which were submitted to the different committees at that meeting, there is none more immediately interesting to the great body of agriculturists, than the one intrusted to your committee, to wit, the present state and future improvement of Neat Cattle. It is a subject which appears to be less understood, and to have received less attention, than any other, and is most completely identified with our agricultural prosperity and with the comforts, and the very continuance of life.—That this kind of stock constitutes a great proportion of the wealth of the country may be inferred from the fact, that our state alone, according to the census of 1835, contains 1,885,771 cattle. It will hardly be expected that your committee should go into a particular history of all the known breeds of cattle, and of all their peculiar properties. Such a course would do in writing a treatise on cattle, but in the present case would only tend to confuse the mind of the inexperienced breeder. Your committee therefore have thought it advisable to confine themselves in the performance of the duty assigned them, to giving a short general description of the most common kinds of cattle among us, as well, those imported as our native stock, noting their good and bad points, and by stating the disadvantages and losses attending a careless and unskillful course of breeding, rearing, and feeding, endeavor to get up a spirit of reformation and improvement among the agricultural population; thereby increasing their wealth, and adding to the subsistence and comfort of all classes of the community; and if, by means of our report, and those which shall be read here to-day, the farmers could be induced to employ more capital, and to exert more care and skill in all the various branches of agriculture, and particularly to the one under consideration, it would greatly add to the productiveness of their farms, and their wealth. Many books have been published, detailing the great improvements made and still making in England in neat stock, but they cannot be expected to be in the hands of our farmers, and it will be our aim in this report, in some degree, to make up this deficiency, by endeavoring to show wherein our native stock are deficient, and recommending to them a better and more profitable course of breeding. To begin then with the most numerous and least profitable breed, the native cow.—"They are a mixture of every breed, and the intelligent and observing breeder, sees in them traces of almost all the English varieties, such perhaps as they were before science and attention had improved them, such as might offer to the American breeder the original materials of their most improved and valued stock, but requiring more time and perhaps more talent, skill and attention, than the American farmer would be willing to bestow on the subject, and yet necessary to enable him to arrive at the same results. This mixed breed are not very celebrated for any thing; some of them are good milkers as far as quantity is concerned, but as to quality of the milk and aptitude to fatten, they generally fail. Their calves are of diminutive size, rarely giving more than 20 lbs. per qr. when killed, at four weeks old; and if reared, of slow growth, seldom coming in till the third year, and then requiring two or three years more to give them standing and character, such as it is, in the dairy. As to their characteristic marks, they are small, short bodied, thin and coarse haired, steep rumped, slab sided, having little aptitude to fatten, or to lay the fat on the right place. There is another class of the native cow, although distinctively marked, (as the horns are wanting,) yet this want will hardly entitle them to be considered a distinct breed, deserves to be mentioned in the enumeration of the native breed. Descended from the Galloway or Angus cattle, a long while ago, they still retain among all the crosses to which they have been subjected, some of the marks and good points for which their ancestors are still celebrated—that is to say, they are a docile, thrifty, hardy kind of animal, with much the same faults, as to form, of those above described, though perhaps more compact, shorter in the leg, a middling thick hide, and withal easier fattened. They are few in number compared with the horned cattle. There is one other species of the native cow, to which it is only necessary to direct your attention, as they are nearly as much celebrated in the sandy tract of country about Albany and Schenectady as the improved short horns themselves, the one for their beauty and good points, the other for their homeliness and bad points. They are peculiar to the sandy soils of our country, running wild in the woods in the summer, and picking up a miserable subsistence in the barn yard in the winter. They are a long legged, raw boned, narrow hipped, sharp backed, steep rumped, slab sided, coarse haired, worthless race, and exactly answer the description of those kine that came up out of the river of Egypt in the time of Pharaoh—"They are poor, ill-flavored

and lean fleshed, such as were never seen in all the land of Egypt for badness." It is not likely that any improvement will be made in this kind of animal, the nature of the soil, the habits of growing the coarser kinds of grain, the foddering of straw in the winter, and pasturing in the woods in summer, peculiar to the inhabitants, (they ought not to be called farmers,) of the Pine bush, will for years to come prevent any permanent amelioration of their condition. If at any time, the spirit of improvement should enter into the calculations of these people, they might by judicious crossing, and a plentiful supply of roots and vegetables to their stock for a great part of the year, attain to something more respectable in this branch of business. This then appears to be the character, and these the qualifications of our native stock. Notwithstanding their defects, "most valuable selections might be made from them, and these crossed by bulls of the improved breed, would furnish perhaps the most useful stock for the practical man, who was not prepared to pay the high prices inseparable from imported stock." And it will be advisable to select cows, either from stock feeding in the neighborhood, or from those sorts that are best calculated for the nature and situation of the soil. The grand secret of breeding, is to suit the breed to the soil and climate. It is because this has not been attended to, that those breeds which have been invaluable in certain districts, have proved altogether profitless and utterly unworthy of culture in others. Let that breed then which is most profitable and best suited to the farm be ascertained, and having succeeded in this, strive to improve it to the utmost, by selecting and breeding from those which to beauty of form, unite the more essential qualities of possessing kindly skins, of weighing most in the valuable parts, together with a disposition to lay fat on the best points, as well as to fatten in a short period of time. The term "kindly skin" means a soft mellow skin, yet firm to the touch, and is as different from the hard, dry skin of some cattle, as it is from the loose, flabby skin of others. The sense of touch, or the art of judging of the disposition to fatten, has been brought to such perfection, that any well informed breeder can, on examining lean beasts, tell with tolerable certainty in what parts they will or will not fatten. The improved short horns are in all respects the most profitable species of animal to cross with the native cow in situations where the soil is rich and luxuriant. They are good milkers, quick feeders, arriving at early maturity, and affording the greatest proportion of good meat to its offal, from the thickness and softness of hair with which this breed is covered, they endure without suffering the severity of our weather; but to the full development of all their properties, and to obtain their most valuable returns they should be well cared for and fed upon a full bite of grass. That this valuable breed of cattle have not been more generally sought for as a cross with our native stock is owing in some degree, to their intrinsic value in comparison with others. It is true the first cost of pure bred animals is high, but when it is considered how extensive is the influence of a bull, and how many improved animals may be yearly obtained by his services, the remuneration is most abundant. A very fine pure bred bull may be obtained for from two to three hundred dollars, and such an animal at three years old, may without injury to himself wait upon fifty cows. In those neighborhoods where such an animal is kept, the half bred yearlings bring from ten to twenty dollars, and in some cases thirty dollars. Our farmers only want to believe this fact to act upon it. But how make them believe it? Why let those gentlemen whose tastes, whose consideration for the farmer, whose love of doing good and whose means are sufficient, purchase such an animal, and allow his neighborhood a discriminative use of his services till conviction followed the evidence thus brought home to them. This has been the practice of your committee, who have allowed the industrious and inquiring farmer the use of their bulls for a few years past, without collecting the amount professedly charged for their services, and they now generally pay the service fee cheerfully, and the work of improvement is in our sections of the country rapidly going on. Another reason why the improved short horns are not more eagerly sought for by the great mass of farmers, is the idea that they require more food and will not keep so easy as the native cow. Now, if they pay better, and in proportion to the extra feed they require, and no one will deny that they do, this objection falls to the ground. The truth is, that as long as the slovenly style of farming of the present day prevails, as it does in too many districts of the state, this objection will continue to be urged. There is yet very little good farming or systematic rotation of cropping pursued, either by our large or small farmers. The land is taxed to its utmost as long as it will bear an average crop of any thing, and when completely exhausted, it is seeded down with five or six pounds of Timothy and Clover to the acre, and Oats or Buck Wheat, and if, as is generally the case, the grass is light, it is pastured until it recovers again in some measure by the manure dropped upon it, or till it is covered with a heavy growth of moss, which turned under in the right time will, after a fashion, enable it again to undergo the process of cropping. Until this system is abandoned, and more attention paid to keep pasture lands in better till, and the growing of root crops for winter fodder for neat stock, it is almost useless to attempt to improve the breed of cattle, or any thing else. Even the aristocratic race of the short horns in such cases would be compelled to knock under, and in process of time, by hard fare and inattention, would get back to the point from which skill and science, and

care and attention first rescued them, and gave them their present elevated station among the brute creation. Let it be remembered, that a good bite of grass in summer, and generous feeding in winter, is necessary to the full development and profitable culture of the short horns. Where this cannot be had, and the land is light and subject to drought, the beautiful little Devon will best find its value, and though not so good a dairy cow, yet she is the source of the finest working oxen, perhaps in the world. The Devons have also a claim to quick feeding, and a maturity much earlier than any unimproved breed. They are said to be the Aboriginal breed of Great Britain, and are there highly valued, and make most delicate beef when fatted. On lands of the above character, the cross between the Devon bull and the native cow would no doubt succeed admirably. These two varieties, the Improved Short Horns and the Devons belong to different soils, and are suited to different purposes, and both are extremely valuable in the situations to which they are adapted. The Galloways are also a breed well fitted, by reason of their hardihood, kindly feeding, and much endurance to the severity of our winters, and the misery of our barn yards. They are a very handsome breed of cattle, straight and broad in the back, round in the barrel, and full in the rib, in which points they will compare with any breed. They lay their fat upon the most valuable parts, and though the feed be short, and the winters long, they will do well and thrive. The Ayreshire breed are also said to feed kindly and profitably, in districts where others could not be made to thrive at all, uniting to a greater degree than any other breed, the supposed incompatible properties of yielding a great deal of milk and beef. They are new comers, but bring with them a good report, and if they maintain the same excellent character for the dairy in our warmer climate, which they have gained at home, they may become the favorite stock of the country, though it is more than probable that when transplanted from their moist climate and poor soil to our warmer climate and richer soil, they will lose their superiority as milkers, and begin to accumulate flesh. The Hereford and Holstein breeds are partially known, in this country, and what little is known is not much to their credit. The former is no milkier, the latter gives abundance of milk, but it is very poor; they are slow to feed, slow to move, and yet slower in attaining maturity. The Alderney, though ill-shaped, is emphatically a better cow than either of the two last mentioned, always poor herself to enrich the milk pail, and though a great feeder yields very little milk; that milk, however, is of an extraordinary excellent quality, and gives more butter than can be obtained from any other cow. The above enumeration contains the description of all the breeds of cattle that we are familiar with, either personally or by reputation, that have been imported into the country for the purpose of crossing with our native stock. Of them all, your committee are of opinion, that the Improved Short Horns, for the rich and fertile valleys, and the North Devons, for the lighter but sweeter feed of the uplands, are the most profitable of all to cross with our native stock. They have been the longest in the country, and experience has proved their worth. The Galloways are probably next in importance, and the day may yet come when the hills of Franklin and Essex, and the whole Northern Frontier, for which they are admirably calculated, may be covered with them. It only remains to conclude this report, and in the words of a Lincolnshire farmer, we would say to those who are, or would be, engaged in the business of rearing stock of any description—"It should be an invariable rule to breed from small boned, straight backed, healthy, clean, kindly skinned, round bodied, and barrel shaped animals, with clean necks and throats, and little or no dew lap, carefully rejecting all those which may have heavy legs and roach backs, together with much appearance of offal."

W. A. S. NORTH,

Chairman of the Committee on Neat Stock.

Mr. H. S. Randall, of Cortland, from the committee on sheep, submitted the following report, which was accepted.

Report on Sheep.

The principal breeds of sheep in the United States are the "native," (so called;) the Spanish and Saxon Merinos, introduced from the countries whose names they bear; and the New-Leicester or Bakewell, the South Down, and some minor importations of Cotswold, Lincolnshire, &c. from England. Chancellor Livingston also speaks of two races as "indigenous" to this country, which we have not enumerated, as it is not known to the committee that they are now bred in any portion of the United States, viz. the Otter and Smith's Island sheep, breeds said to have been discovered on two islands on our Atlantic coast. An almost infinite variety of crosses have taken place between the Spanish, English, and "native" families. To so great an extent indeed has this been carried, that there are, comparatively speaking, few flocks in the United States, that preserve entire the distinctive characteristics of any one breed, or that can lay claim to unmixed purity of blood.

NATIVE SHEEP.

Although this name is popularly applied to the common coarse woolled sheep of the country, which existed here previously to the importation of the improved breeds, there is, properly speaking, no race of sheep "native" to North America. Mr. Livingston, in speaking of a race as "indigenous," only quoted the language

of another,* and his informant was either mistaken as to the fact, or misapprehended the term. The only animal of the genus *Ovis*, originally inhabiting this country, is the Argali,† known to our enterprising travellers and traders who have penetrated to the Rocky Mountains, where the animal is found, as the Big Horn. Though the pelage of the argali approximates but little to the wool of the domestic sheep, they are, as is well known, considered by naturalists, to have belonged originally to the same species; and the changes which have taken place in the form, covering, and habits of the latter, are attributed to his domestication, and the care and skill of man during a long succession of years.

The common sheep of the United States were of foreign, and mostly of English origin. The writer of the volume on sheep in the "Farmer's Series," (Mr. Youatt,) speaks of them as "although somewhat differing in various districts, consisting chiefly of a coarse kind of Leicester, originally of British breed."‡ Others have seen, or fancied they saw, in some of them a strong resemblance to the South Downs. Mr. Livingston was of this number.§ But it is far more probable that they can claim a common descent from no one stock. Our ancestors emigrated from different sections of the British dominions, and some portion of them from other parts of Europe. They brought their implements of husbandry, and their domestic animals to fertilize the wilderness. Each, it would be natural to suppose, made choice of the favorite breed of his own immediate district, to transport to the New World, and the admixture of these various races formed the mongrel family now under consideration. Amid the perils of war and the incursions of beasts of prey, they were preserved with sedulous care. As early 1676, Mr. Edward Randolph, in a "Narrative to the Lords of the Privy Seal," speaks of New-England as "abounding with sheep."||

The common sheep yielded a wool only suited to the coarsest fabrics, averaging, in the hands of good farmers, from three to three and a half pounds of wool to the fleece. They were slow in arriving to maturity, compared with the improved English breeds, and yielded, when fully grown, from ten to twelve pounds of a middling quality of mutton to the quarter. They were usually long legged, light in the fore quarter, and narrow on the breast and back, although some rare instances might be found of flocks with the short legs, and some approximation to the general form of the improved breeds. The common sheep were excellent breeders, often rearing, almost entirely destitute of care, and without shelter, one hundred per cent of lambs, and in small flocks a still larger proportion. These, too, were usually dropped in March, or the earlier part of April. Restless in their disposition, their impatience of restraint almost equalled that of the untamed argali, from which they were descended, and in many sections of our country it was common to see from twenty to fifty of them roving with little regard to inclosures, over the possessions of their owner and his neighbors, leaving a large portion of their wool adhering to bushes and thorns, and the remainder placed nearly beyond the possibility of carding by the burs of the *Tory bur*, so common on new lands.

The old common stock of sheep, as a distinct family, have nearly disappeared, having been universally crossed, to a greater or less extent, with the foreign breeds of later introduction. The first and second cross with the Merino, resulted in a decided improvement, and produced a variety exceedingly valuable for the farmer, who rears wool only for domestic purposes. The fleeces are of uneven fineness, being hairy on the thighs, dewlap, &c.; but the general quality is much improved; the quantity is considerably augmented; the carcass is more compact and nearer the ground; and they have lost their unquiet and roving propensities. The cross with the Saxon, for reasons which we shall hereafter allude to, has not been generally so successful. With the Leicester and Downs, the improvement, so far as form, size and a propensity to take on fat are concerned, is manifest.

SPANISH MERINO.

The history of this celebrated race of sheep, so far as it is known, has so often been brought before the public, that it is deemed unnecessary here to recapitulate it. The first importation of them into the United States, took place in 1801. Four rams were shipped by Mr. Delessart, a banker of Paris, three of which perished on the passage.¶ The fourth arrived in safety at Rosendale, a farm owned by that gentleman near Kingston, in this state. In 1802, two pair were sent from France by Mr. Livingston, the American minister, to his estate on the Hudson; and later the same year, Mr. Humphreys, our Spanish minister, shipped one hundred, on his departure from that country, for the United States. But they attracted little notice until our difficulties with England led to a cessation of commercial intercourse with that power in 1808 and 1809. The attention of the country being now directed towards manufacturing and wool growing, the Merino rose into importance. So great indeed was the interest excited, that from a thousand to fourteen hundred dollars a head, was paid for them. Other and numerous importations soon followed, and unfortunately some of the cargoes arrived in the worst condition, bringing with them those scourges of the ovine

* Livingston's Essay on Sheep, pages 58, 59.

† Godman's American Natural History.

‡ Vol. on Sheep, page 134.

§ Essay on Sheep, page 53.

|| Colonial papers of Massachusetts.

¶ "Archives of Useful Knowledge.—Cultivator, Vol. i, p. 183.

race, the scab and foot-rot. These evils and the increased supply, soon brought them down to less than a twentieth part of their former price; they could now be bought for twenty dollars a head. When, however, it was established by actual experiment, that their wool did not deteriorate as had been feared by many, in this country, and that they became readily acclimated, they again rose into favor. But the prostration of our manufacturing, which soon after ensued, rendered the Merino comparatively of little value, and brought ruin to numbers who had purchased them at their previous high prices. The rise which has since taken place in the value of fine wool, as well as the causes which led to it, are too recent and well understood to require particular notice. With the rise of wool, the valuation of the sheep which bear it, has of course kept pace.

The Merino has been variously described. This arises from the fact, that it is but the general appellation of a species, comprising several varieties, presenting essential points and difference in size, form, quality of quantity of wool. The Escorial flocks stand first in point of fineness. Attached to the convent *El Escorial*, within a short distance of the capital, and being the private property of the kings of Spain, no pains or care have been spared upon these beautiful flocks. They are of a good size, and fine form, "combining excellence," as is remarked by an intelligent writer,* "scarcely admitting of improvement." It is supposed that most of the Escorial sheep which found their way into this country, are but indifferent specimens of this celebrated variety of the Merino. Their fleeces are somewhat lighter than those of the Paulars, Negretti, &c. and altogether they bear a close resemblance to the genuine Saxons, of which they are the parent stock.

According to Mr. Lasteysie,† the Negretti "are the largest and strongest of all the Spanish travelling sheep." The Gaudaloupe "have the most perfect form, and are likewise celebrated for the quantity and quality of their wool." The Paulars "bear much wool of a fine quality; but they have a more evident enlargement behind the ears, and a greater degree of throatiness."

As the last named was one of the principal varieties introduced into the United States, a more particular description of it may not be unacceptable. The sheep of the Paular Convent are large, with heavy, but compared with the Escorial or Saxon, coarse fleeces. The wool of the pure bloods contains a considerably quantity of jarr or hair, and it abounds in yolk to such a degree, that it catches and retains at its extremities much floating dust, the pollen of hay, &c. This gives it a peculiarly stiff and hard feeling externally. It, however, forms an excellent protection against storms and cold. The form of the Paular is generally good, but an unusually large dewlap, so plated and doubled, as to go by the popular appellation of "the ruffe," extends from the lower jaw to the brisket, presenting a great obstacle to the shearer, and an unseemly and ungraceful appendage in the eye of the refined breeder. On the sides of the neck, and not unfrequently the face, the skin also lies in loose wrinkles. The head is coarse, and in the male, usually surmounted by large horns. The skill of the American breeder has obviated some of those defects, and there are some few (very few) flocks claiming purity of blood, which have little or no jarr, and an almost entire absence of the throatiness, peculiar to this variety. It is to be apprehended, however, that in most such instances, they owe it to a cross with the Saxons.

There are some other varieties of the Merino, which we shall not pause to describe. Taken collectively, the Spanish rams, according to Chancellor Livingston, yield about eight and a half pounds of wool, and the ewes five, which loses half in washing—making four pounds and a quarter the average weight of fleece of the rams, and two and a half the average of the ewes.‡ Some varieties considerably exceed this estimate, and probably it would fall short if applied to the prime sheep of any variety. In the celebrated flock of French Merinos at Rambouillet, the average weight, exclusive of tag and belly wool, is six pounds to the fleece. It must be confessed, however, that both Mr. Livingston and Mr. Humphreys assert, that the Rambouillet sheep carry more wool than any of the Spanish flocks.§ Col. Humphreys, in a letter to the Agricultural Society of Massachusetts, even goes so far as to state, "that the improved stock of France yield twice as much wool as those of Spain." Some carefully selected small flocks in this country, which were "saved"|| after the preceding shearing, have averaged, including the ordinary number of rams, four and a half pounds of wool to the head. The gummy thick wool of the Merino can be but imperfectly cleansed on the back of the animal, where it is the universal custom in the United States to wash it, and probably four pounds of clean wool would be as high as the maximum average in the choicest flocks. Few ever go three and a half.

The Merino, though the native of a warm climate, becomes readily inured to the greatest extremes of cold, flourishing as far north as Sweden, without degenerating in fleece or form.¶ It is a patient, docile animal, bearing much confinement without injury to health, and we never have been enabled to discover in it that peculiar "voraciousness of appetite," ascribed to it by Eng-

lish writers.* Accurately conducted experiments have shown, that it consumes two pounds of hay per diem, in winter; the Leicester consumes from three and a half to four; and the common woolled American sheep would not probably fall short of three. The mutton of the Merino, in spite of the prejudice which exists on the subject, is short grained, and of good flavor when killed at a proper age, and weighs from eight to ten pounds to the quarter. It is remarkable for its longevity, retaining its teeth and continuing to breed, two or three years longer than the common sheep, or the improved English breeds; but it should be remarked in connexion with this fact, that it is corresponding slowly in arriving at maturity. It does not attain its full growth before three years old, and the ewes in the best managed flocks, are rarely permitted to breed before they reach that age. The Merino is not a good breeder, the bearing ewes giving little milk, and sometimes neglecting their lambs. Eighty per cent would probably be as high as the average number of lambs usually reared.

We have already adverted to the cross between the Merino and the native sheep. On the introduction of the Saxon family of the Merinos, they were universally engrafted on the parent stock—and the cross was continued until the Spanish blood was nearly bred out. When the admixture took place with pure blooded and prime Saxons, it resulted most favorably. A variety was produced superior to the Merino in form, carrying less wool, but this more than compensated by its increased fineness. The excessive throatiness of the Paulars disappeared, or was greatly diminished. But unfortunately these instances of judicious crossing were rare. Our country was flooded by eager speculators, with the grade sheep and refuse Merinos of Germany. Fineness of wool, during the period of this strange excitement, was made the only test of excellence—no matter how scanty its quantity—no matter how diminutive or miserable the carcass. Governed by such views, the holders of most of our Merino flocks purchased these pseudo Saxons, and the consequence was, as might have been foreseen, their flocks were ruined.

SAXON MERINO.

In the year 1765, Augustus Frederick, elector of Saxony, obtained permission from the Spanish court to import 200 Merinos, selected from the choicest flocks of Spain. They were chosen principally from the Escorial flock, and on their arrival in Saxony, were placed on a private estate belonging to the elector, under the care of Spanish shepherds. So much importance was attached to the experiment, as it was then considered, that a commission was appointed to superintend the affairs of the establishment; and it was made its duty to diffuse information in relation to the management of the new breed; to dispose of the surplus rams at prices which would place them within the reach of all holders of sheep; and finally, by explaining the superior value of the Merinos, to induce the Saxon farmers to cross them with their native breeds. Popular prejudice, however, was strong against them, and this was heightened by the ravages of the scab, which had been introduced with them from Spain; and which proved very destructive before it was finally eradicated. But when it became apparent that the Merino, so far from degenerating, had improved in Saxony, and that the Saxon wool exceeded the Spanish in fineness and value, the wise and patriotic efforts of the elector began to reap their merited success, and a revolution took place in popular sentiment. The call for rams became so great that the government resolved on a new importation, to enable them more effectually to meet it, and to improve still further the stock already obtained. For this purpose an individual, considered one of the best judges of sheep in Saxony, was dispatched to Spain in 1777, with orders to select three hundred. For some reason—probably because he experienced difficulty in obtaining a greater number presenting all the qualifications he sought, he returned with but one hundred and ten. They were from nearly all the different flocks of Spain, but principally the Escorial,—and were considered decidedly superior to the first importation. In addition to the establishment at Stolpen, already founded, others were now commenced at Rennersdorf, Lohmew, &c.; schools were established for the education of shepherds; publications were distributed by the commissioners to throw information on the subject before the people; and the crown tenants, it is said, were each required to purchase a certain number of the sheep. When we take into consideration the unwearied pains bestowed on this favorite object by the Saxon government—the fact, that the Saxon variety are descended only from the choicest sheep of Spain—and that a degree of care and attention are bestowed on their breeding in the former country entirely unknown in the latter—it is not a subject of surprise, that the emigrant Merino in Saxony excels the parent stock, in the quality of his fleece, and that roundness of form and fineness of bone, which indicate better feeding properties. The Spanish shepherd is little changed from what he was in the days of Cardinal Zimenes, or Pedro IV.—with much practical knowledge of his business, but never dreaming of improvement; and his knowledge strangely blended with prejudices as ancient as the pedigrees of his sheep—running back to a period when Spain was a Roman province. He is not the owner of the sheep under his care, but the ill-paid servant of a titled family; or a religious order, who in nine cases out of ten, are no more disposed, or more competent to carry out a system for the improvement of their flocks, than himself. And finally, the Spanish custom

of pasturing their sheep during the entire season in large flocks, without inclosures* to render the necessary divisions practicable, entirely prevents that nice adaptation to each other of the male and female selected for breeding—that counterbalancing of the defects of one parent by the marked excellence of the other in the same points, which exhibits the skill of the modern breeder. In Saxony, and the other states of Germany, the case is far otherwise. The electoral flocks, the parent stem, are under the direction of commissioners appointed for their intelligence and knowledge of the subject; and the noted private flocks employ the first agricultural skill of the Saxon land-holders. The low price of labor, too, admits of a degree of attention and constant care over their flocks, unknown in other countries. The attention bestowed upon breeding, may be inferred from the fact, that in many of the largest flocks, every individual sheep is numbered and registered—its pedigree known, and its offspring recorded! The number and age of the sheep is expressed by an ingenious method of marking on the ear, invented by Mr. Thuer, which causes little mutilation, and which effectually distinguishes any number of sheep. "When lambs are weaned, (says Mr. Charles Howard, in a letter to the author of the volume on sheep in the "Farmer's Series,") each is placed upon a table that his wool and form may be minutely observed. The finest are selected for breeding, and receive a first mark. When they are one year old, and prior to shearing them, another close examination of those previously marked takes place: those in which no defect can be found receive a second mark, and the rest are condemned. A few months afterwards, a third and last scrutiny is made; the prime rams and ewes receive a third and final mark, but the slightest blemish is sufficient to cause the rejection of the animal."

Considerable attention has also been bestowed in Germany on the breeding of grade sheep—a cross between the Merino and the native sheep of the country. These native sheep were of two varieties, and they bore a strong resemblance to the old common stock of the United States,—those which were fed on the uplands being smaller and of finer fleece, and the lowland sheep carrying more flesh and coarser wool. The sheep holders, who were unable to purchase pure bloods, resorted to this cross. The wool of some of these flocks, after a few generations, has rivalled even the electoral in fineness; but it loses in quantity, as the native German carried much lighter fleeces than the Spanish sheep. The sheep themselves are much less perfect in form, the means of the common breeder not permitting, and indeed there being no prospect for an adequate return, should he bestow the same labor that the breeder of pure bloods does—sacrifice for the least defect, and, in short, incur the same expenses—when at best, his sheep will not sell for more than one-eighth or tenth of the price of pure bloods.

In 1834, the best Spanish wool sold in the English markets at 2s. 6d., to 4s.; the Saxon at the same time commanded from 4s. 9d. to 5s. 3d. per pound.† In the United States, where less difference, and very unjustly, is usually made, the full blooded Saxon sells for about one-third more per pound than the Merino. The fleece in good flocks averages about two and a half pounds, and often, if grown sheep were only included, would rise as high as three. But this is far from the standard of many flocks in the United States, called, and doubtless believed by their owners, to be genuine Saxons. This brings us to a most painful part of our subject, and which we would willingly pass over in silence, were not our obligations to the public paramount to any considerations for the feelings of individuals. In disclosing the frauds practised on the American public, we are compelled for the purpose of doing justice to the innocent and the guilty, and also for the information of those who have been the purchasers of the imported sheep, to go into a minuteness of detail, which would otherwise be uninteresting, and perhaps be deemed censurable.

The following statement was submitted to the committee by Mr. Grove:

"The first importation of Saxony sheep into the United States was made by Mr. ———, a merchant of Boston, at the instance of Col. James Shepherd, of Northampton. They were but six or seven in number. In 1824, Messrs. G. and T. Searle, of Boston, imported seventy-seven Saxon sheep. They were selected and purchased by a Mr. Kretschman, a correspondent of the above firm, residing in Leipzig, and shipped at Bremen on board the American schooner *Velocity*. I was engaged to take charge of the sheep on the passage, and I also shipped six on my own account. I am sorry to say, that as many as one-third of the sheep purchased by Kretschman (who shared profit and loss in the undertaking,) were not pure blooded sheep. The cargo were sold at auction at Brookline, as 'pure blooded electoral Saxons,' and thus unfortunately in the very outset the pure and impure became irrevocably mixed. But I feel the greatest certainty that the Messrs. Searle intended to import none but the pure stock—the fault lay with Kretschman. In the fall of 1824, I entered into an arrangement with the Messrs. Searle to return to Saxony, and purchase, in connexion with Kretschman, from 160 to 200 electoral sheep. I was detained at sea seven

* Neither are there inclosures in Saxony; but the division is effected by the bucks being placed in pairs, and the ewes classified and marked. The ewes are from time to time driven in the yard around the pens, and when the teaser has selected one, it is placed in the pen of the buck for which it is marked.

† "Farmer's Series."

* Cultivator, Vol. 2, p. 150.

† "Farmer's Series," volume on sheep, p. 155. We quote Mr. Youatt.

‡ Essay on Sheep, p. 39.

§ Livingston's Essay, p. 71, and note.

|| Rubbed over with a salve, consisting of oil, wax, &c. which adds to the weight of fleece.

¶ Lasteysie.

* "Farmer's Series," Sheep, p. 149.

weeks, which gave rise to the belief, that I was shipwrecked and lost. When I finally arrived, the sheep had been already bought by Kretzman. On being informed of what the purchase consisted, I protested against taking them to America, and insisted on a better selection—but to no purpose. A quarrel ensued between us, and Kretzman even went so far as to engage another to take charge of the sheep on their passage. My friends interposing, I was finally induced to take charge of them. The number shipped was 167, fifteen of which perished on the passage. They were sold at Brighton, some of them going as high as from \$400 to \$450. A portion of this importation consisted of grade sheep, which sold as high as the pure bloods, for the American purchaser could not know the difference. It may be readily imagined what an inducement the Brighton sale held out to speculation, both in this country and Saxony. The German newspapers teemed with advertisements of sheep for sale, headed 'Good for the American market,' and these sheep in many instances were actually bought up for the American market at five, eight, or ten dollars a head, when the pure bloods could not be purchased at from less than \$30 to \$40. In 1826, Messrs. Searle imported three cargoes, amounting in the aggregate to 513 sheep. They were of about the same character with their prior importations—in the main good, but mixed with some grade sheep. On the same year, a cargo of 221 arrived, on German account, Emil Bach, of Lepzig, supercargo. A few were good sheep, and of pure blood; but taken as a lot, they were miserable. The owners sunk about \$3,000. Next came a cargo of 210, on German account; Wasmuss and Multer owners. The whole cost of these was about \$1,125, in Germany. With the exception of a small number, procured to make a flourish on, in their advertisements of sale they were sheep having no pretensions to purity of blood. In 1827, the same individuals brought out another cargo. These were selected exclusively from grade flocks of low character. On the same year the Messrs. Searle made their last importation, consisting of 182 sheep. Of these I know little. My friends in Germany wrote me, that they were like their other importations, a mixture of pure and impure blooded sheep. It is due, however, to the Messrs. Searle to say, that as a whole, their importations were much better than any other made into Boston.

"I will now turn your attention to the importations made into other ports. In 1825, thirteen Saxons arrived in Portsmouth. They were miserable creatures. In 1826, 191 sheep arrived in New-York, per brig William, on German account. A portion of these were well descended and valuable animals; the rest were grade sheep. In June the same year, the brig Louisa brought out 173, also on German account. Not more than one-third of them had the least pretensions to purity of blood. Next we find 138, shipped at Bremen, on German account. Some were diseased before they left Bremen, and I am happy to state that twenty-two died before their arrival in New-York. All I intend to say of them is, that they were a most curious and motley mess of wretched animals. The next cargo imported, arrived in the brig Maria Elizabeth, under my own care. They were 165 in number, belonging to myself and F. Gebhard, of New-York. These sheep cost me \$65 a head when landed in New-York. They sold at an average of \$50 a head, thus sinking about \$2,400! I need not say that they were exclusively of pure blood. A cargo of 81 arrived soon after, but I know nothing of their quality. The next importation consisted of 184, on German account per brig Warren. With a few exceptions they were pure blooded and good sheep. We next have an importation of 200, by the Bremen ship Louisa. They are commonly called the 'stop sale sheep.' They were of the most miserable character, some of them being hardly half grade sheep. The ship Phoebe Ann brought 120 sheep, of which I know little, and 60 were landed at Philadelphia, with the character of which I am unacquainted. Having determined to settle in America, I returned to Saxony, and spent the winter of 1826-7 in visiting and examining many celebrated flocks. I selected 115 from the celebrated Machern, embarked on board the ship Albion, and landed in New-York June 27, 1827. In 1828, I received 80 more from the same flock, selected by a friend of mine, an excellent judge of sheep. I first drove them to Shaftsbury, adjoining the town of Hosc, where I now reside. On their arrival they stood me in \$70 a head, and the lambs half that sum."

It should be remarked that the above statements were made by Mr. Grove with the greatest reluctance, and only at the earnest solicitation, or rather requisition of the committee, who conceived it their duty to place the whole circumstances before the public.

It will be inferred from the facts above stated, that there are few Saxon flocks in the United States, that have not been reduced to the quality of grade sheep, by the promiscuous admixture of the pure and impure, which were imported together, and all sold to our breeders as pure stock. This accounts in a satisfactory manner for the different estimation in which this breed of sheep are held in Germany and this country,—and for the degeneracy of the pseudo Saxon of the United States.

In its general habits and characteristics—its docility and patience under confinement—as well as its deficiency as a breeder, and its slowness in arriving at maturity, the Saxon bears a close resemblance to the Merino. It consumes about the same amount of food, and is equally remarkable for its longevity. Its mutton, however, is considered of better color, and rather superior in quality.

THE NEW LEICESTER OR BAKEWELL SHEEP.

The unimproved Leicester was a "large, heavy, coarse woolled breed" of sheep, inhabiting the midland counties of England. It is described also as having been "a slow feeder, and its flesh coarse grained, and with little flavor." The breeders of that period regarded only size, and weight of fleece. The celebrated Mr. Bakewell, of Dishley, was the first who adopted a system more in accordance with the true principles of breeding. He selected from the flocks about him those sheep "whose shape possessed the peculiarities which he considered would produce the largest proportion of valuable meat, and the smallest quantity of bone and offal," and having observed that animals of medium size possess a greater aptitude to take on flesh, and consume less than those which are larger, and that prime fattening qualities are rarely found in sheep carrying a great weight of wool, he gave the preference to those of smaller size, and was satisfied with lighter fleeces. To reach the wonderful results obtained by Mr. Bakewell, it was supposed that he resorted to a cross with some other varieties, but it seems now to be well established that he owed his success only to a judicious principle of selection, and a steady adherence to certain principles of breeding.

The improved Leicester is of large size, but somewhat smaller than the original stock, and in this respect falls considerably below the coarser varieties of Cotswold, Lincoln, &c. Where there is a sufficiency of feed, the New Leicester is unrivalled for its fattening properties, but it will not bear hard stocking, nor must it be compelled to travel far in search of its food. It is in fact properly and exclusively a lowland sheep. In its appropriate situation, on the luxuriant herbage of our highly cultivated lands, it possesses unrivalled earliness of maturity, and its mutton when not too fat is of a good quality, but is usually coarse and comparatively deficient in flavor, owing to that unnatural state of fatness which it so readily assumes, and which the breeder, to gain weight, so generally feeds for. The wethers having reached their second year are turned off in the succeeding February or March, and weigh at that age from thirty to thirty-five pounds to the quarter. The wool of the New Leicester is long, averaging, after the first shearing, about six inches, and the fleece weighs six pounds. It is of coarse quality, and little used in the manufacture of cloths, on account of its length, and that deficiency of felting properties, common in a greater or less extent, to all the English breeds. As a combing wool, however, it stands first, and is used in the manufacture of the finest bombazines.

The high bred Leicesters of Mr. Bakewell's stock became shy breeders, and poor nurses, but crosses subsequently adopted, have obviated these defects. In England, where mutton is generally eaten by the laboring classes, the meat of this variety is in very great demand, and the consequent return which a sheep possessing such fine feeding properties is enabled to make, renders it a general favorite with the breeder. Instances are recorded of the most extraordinary prices having been paid for these animals, and Mr. Bakewell's celebrated buck "Two-Pounder" was let for the enormous price of four hundred guineas for a single season! The New Leicester has spread into all parts of the British dominions, and been imported into the other countries of Europe and the United States. They were first introduced into our own country by the late Christopher Dunn, Esq. of Albany, about twenty-five years since. Subsequent importations have been made by Mr. Powell, of Philadelphia, and various other gentlemen.

We conclude this notice of the Leicester, with the following description of what should constitute a perfect animal of this breed, from the "Farmer's Series":

"The head should be hornless, long, small, tapering towards the muzzle, and projecting horizontally forward. The eyes prominent, but with a quiet expression. The ears thin, rather long, and directed backwards. The neck full and broad at its base, where it proceeds from the chest, but gradually tapering towards the head, and being particularly fine at the junction of the head and neck; the neck seeming to project straight from the chest, so that there is, with the slightest possible deviation, one continued horizontal line from the rump to the poll. The breast broad and full; the shoulders also broad and round, and no uneven or angular formation where the shoulders join either the neck or the back, particularly no rising of the withers, or hollow behind the situation of these bones. The arm fleshy through its whole extent, and even down to the knee. The bones of the leg small, standing wide apart, no looseness of skin about them, and comparatively bare of wool. The chest and barrel at once deep and round; the ribs forming a considerable arch from the spine, so as in some cases, and especially when the animal is in good condition, to make the apparent width of the chest even greater than the depth. The barrel ribbed well home, no irregularity of line on the back or the belly, but, on the sides, the carcase very gradually diminishing in width towards the rump. The quarters long and full, and, as with the fore legs, the muscles extending down to the hock; the thighs also wide and full. The legs of a moderate length, the pelt also moderately thin, but soft and elastic, and covered with a good quantity of white wool, not so long as in some breeds, but considerably finer."

THE SOUTH DOWN.

This breed of sheep has existed for several centuries in England, on a range of chalky hills called the South

Downs. They were as recently as 1776, small in size, and of a form not superior to the common woolled sheep of the United States. Since that period a course of judicious breeding, pursued by one man, (Mr. Ellman, of Gluyde,) has mainly contributed to raise this variety to its present high degree of perfection, and that too, without the admixture of the slightest degree of foreign blood. In our remarks on this breed of sheep, it will be understood that we speak of the pure *improved family*, as the original stock, presenting with trifling modifications, the same characteristics which they exhibited sixty years since, are yet to be found in England—and as the middle space is occupied by a variety of grades, rising or falling in value, as they approximate to, or recede from, the pure blood.

The South Down is an upland sheep, of medium size, and its wool, which in point of length belongs to the middle class, is estimated to rank with half grade merino. The average weight of fleece in the hill fed sheep is three pounds, and in the lowland, four pounds. But the Down is cultivated more particularly for its mutton, which for quality takes precedence of all other in the English markets. Its early maturity, and extreme aptitude to lay on flesh, render it peculiarly valuable for this purpose. The Down is turned off at two* years old, and its weight at that age is from 80 to 100 pounds. High fed wethers in England, have reached from thirty-two to even forty pounds a quarter! Notwithstanding its great weight, the Down has, in the language of Mr. Youatt, a patience of occasional short keep, and an endurance of hard stocking, equal to any other sheep. This gives it a decided advantage over the bulkier Leicester, Lincoln, &c. as a mutton sheep in hilly districts, and those producing short and scanty herbage. It is hardy and healthy, though in common with the other English varieties much subject to the catarrh or "snuffles," and no sheep better withstands our American winters. The Ewes are prolific breeders and good nurses. The Down is quiet and docile in its habits, and though an industrious feeder, exhibiting little disposition to rove.

A sheep possessing such qualities, must of course be exceedingly valuable in upland districts in the vicinity of markets. Accordingly, they have been introduced into every part of the British dominions, and imported into various other countries. The Emperor of Russia, paid Mr. Ellman, three hundred guineas for two rams, and in 1800 "a ram belonging to the Duke of Bedford, was let for one season at eighty guineas, two others at forty guineas each, and four more at twenty-eight guineas each."† These valuable sheep were introduced into the United States a few years since by Col. J. H. Powell, of Philadelphia, and a small number was imported by one of the members of this committee in 1834. The last were from the flock of Mr. Ellman, at a cost of \$60 a head. Several other importations have since taken place.

The following is the description of the perfect South Down by Mr. Ellman, the founder of the improved breed:—

"The head small and hornless; the face speckled or gray and neither too long nor too short. The lips thin, and the space between the nose and the eyes narrow. The under jaw, or chape, fine and thin; the ears tolerably wide and well covered with wool, and the forehead also, and the whole space between the ears well protected by it, as a defence against the fly.

"The eye full and bright, but not prominent. The orbits of the eye, the eye cap, or bone, not too projecting, that it may not form a fatal obstacle in lambing.

"The neck of a medium length, thin towards the head, but enlarging towards the shoulders, where it should be broad and high, and straight in its whole course above and below. The breast should be wide, deep and projecting forwards between the fore legs, indicating a good constitution and a disposition to thrive. Corresponding with this, the shoulders should be on a level with the back, and not too wide above, they should bow outward from the top to the breast, indicating a springing rib beneath, and leaving room for it.

"The ribs coming out horizontally from the spine, and extending far backward, and the last rib projecting more than others, the back flat from the shoulders to the setting on of the tail; the loin broad and flat; the rump long and broad, and the tail set on high, and nearly on a level with the spine. The hips wide; the space between them and the last rib on either side as narrow as possible, and the ribs generally presenting a circular form like a barrel.

"The belly as straight as the back.

"The legs neither too long nor too short. The fore legs straight from the breast to the foot; not bending inward at the knee, and standing far apart both before and behind; the hock having a direction rather outward, and the twist, or the meeting of the thighs behind, being particularly full, the bones fine, yet having no appearance of meekness, and of a speckled or dark color.

"The belly well defended with wool, and the wool coming down before and behind to the knee, and to the hock; the wool short, close, curled and fine, and free from spiky projecting fibres."

Mr. Allen, from the committee on horses asked further time to report. Granted, and directed to report at the next annual meeting of the society.

Mr. Buel, from the committee on swine, read the following report, which was accepted.

* Among breeders the sheep is termed a two year old or a two shear sheep until three years old. In this case the sheep is between two and a half and three years old.

† "Farmer's Series."

Report on Swine.

The committee appointed at the last annual meeting of the society, to inquire into the progress made in the improvement of swine, submit the following report:

All the breeds of hogs known among us are supposed to have sprung from the Wild Boar (*Sus aper*) of the old continent. The varieties are numerous, and are annually increasing by new crosses. They differ in size, color, propensities to fatten, and in the quality of their pork—the smaller breeds affording the more fine and delicate meat, and the larger ones giving the most meat. The names of breeds indicate their origin, or some peculiar property.

There are good points in the hog, which are similar to what they are in other domestic animals; they indicate a disposition to fatten readily, and constitute beauty, because they are the criteria of utility. The chest of the hog should be deep and broad; the ribs largely arched; the neck short, and the head and limbs small; the bristles should be short, approaching to hair, and the skin soft and elastic.

The breeds in highest repute in Great Britain, are stated by Low to be the Chinese, Berkshire and Hampshire; the first admired for the whiteness and delicacy of its flesh; the second for its hardness, quick fattening properties, and the excellence of its flesh for pork or bacon; the latter for the great weight which it is made to attain.

The Chinese hog is distinguished by having the upper part of the body almost bare; its belly hanging nearly to the ground; its legs very short, and its tail still more proportionally short. The color is commonly a dark grey, but often of other shades. This breed has been advantageously crossed with several other varieties.

The Berkshire hog, is generally of a tawney, white, or reddish color, spotted with black, according to Loudon, though with us the black color seems to preponderate; thick, close and well made in the body; legs short; small in the bone, and has a disposition to fatten quickly.

The Hampshire hogs are large, long in the body and neck, but not so compact as the Berkshire; generally white or spotted, and well disposed to fatten, coming up to a great weight. Lawrence adds that they are generally dark spotted, and sometimes black.

This reference is made to foreign breeds, because most of our improved varieties consist of one or the other of them, or of their crosses. Little attention has yet been paid, among us, to rearing new breeds; yet, from the spirit of improvement which is diffusing itself over our country, we may expect soon to see such improvements successfully gone into. The difference, in the return of meat for the quantity of food consumed, is very great between different varieties—there being some that can scarcely be made fat, even at an advanced age, with abundance of food.—There is no domestic animal which can be more readily improved in its form, from the facility with which it receives the character of its parents, and none more capable of a rapid increase.

There is a breed which abounds in our country, denominated the *Tonewanta*, from the writer having seen some pure unmixed individuals of the breed in that quarter, though they yet abound in other parts of the state. They are a long-legged, long-necked, long-snouted, long-tailed, long-bristled, razor-backed species, of a roaming mischievous disposition. A friend had kindly made a drawing of one of these animals, which we designed to have exhibited here in *terrorem*, and as a caution against their further propagation among us. But we have mislaid the pencil sketch.

So little attention has been paid to the improvement of the hog, until within a few years, among us, that it is difficult to particularize or describe our best breeds. The grass breed was long in deservedly high repute; but as little care was had to preserve its purity and excellence, it has mingled and been almost lost in our innumerable sub-varieties. The Chinese has had its day with some, the Mackay is still a favorite at the east; and there are other varieties in equal repute in other districts of our country. The Berkshire, however, seems now to be ascendant generally. These have been in most demand during the last two years, have commanded high prices, and have been sent, in considerable numbers, from this city, to almost every part of the union. The stock from which the Berkshire breed has been propagated, was selected in England, and imported some five years ago, by Mr. Siday Hawes, who at that time emigrated and settled in this neighborhood. The stock was subsequently transferred to C. N. Bement, who became Mr. Hawes' successor upon what is denominated the *Three Hills Farm*.

The committee are happy to state, that an increased interest is now given to the fattening of pork as constituting a profitable staple of our husbandry; that the advantages of improved breeds, in beauty of form, facility of fattening, and profit of feeding, are becoming daily more apparent; that our general stock has been greatly improved—and that the improvement promises to progress. The new facilities of making pork upon the farm, by the aid of the apple orchard, and the increased culture of roots; and from the excellent practice, now becoming general, of grinding or cooking the provender and roots upon which our hogs are fed, added to the uniform fair demand for this meat in the market—all these considerations combine to give an importance to this branch of rural economy, which is worthy the special notice of the farmer.

Respectfully submitted,
J. BUEL, *Chairman*.

On Motion of Mr. Randall of Cortland,
Resolved, That Messrs Buel and Randall be a committee to prepare the proceedings of the society for publication and that said committee furnish copies to the editors of The Cultivator and Genesee Farmer for publication.

On motion of Mr. Buel,

Resolved, That this society adjourn to meet at the City-Hall on the first Tuesday in Feb. 1839.

JOHN P. BEEKMAN, *Pres.*

H. S. RANDALL, *Sec.*

N. Y. St. Agricultural Convention.

The Convention assembled agreeably to public notice, in the Mayor's Room, in the City-Hall of the city of Albany, on the 1st day of February, 1838. W. A. S. North of Schenectady, was called temporarily to the chair, and Henry S. Randall, of Cortland, was chosen secretary, p. t.

On motion of J. Buel, it was

Resolved, That Messrs. J. P. Beekman, of Columbia, L. F. Allen, of Erie, J. Buel, of Albany, H. Baldwin, of Onondaga, and J. B. Duane, of Schenectady, be a committee to report suitable names for officers of the convention.

On motion of J. P. Beekman, it was

Resolved, That Messrs. H. Baldwin, J. Buel, A. Van Bergen, of Greene, F. Rotch, of Otsego, and H. S. Randall, be a committee to report subjects that ought to be brought before the convention, and the order of proceedings thereon.

The convention then adjourned to meet at the Assembly Chamber at 3 o'clock P. M.

Assembly Chamber, Feb. 1. 3. P. M.

The convention met pursuant to adjournment.

Mr. Beekman, from the committee to nominate officers for the convention, reported the following, which was accepted by the convention,

JAMES R. LAWRENCE, of Onondaga, *President*.

AVERY SKINNER, of Otsego,
DANIEL WARDWELL, of Jefferson,
D. S. DICKERSON, of Broome,
A. VAN BERGEN, of Greene,
F. ROTCH, of Otsego,
G. W. PATTERSON, of Livingston,
E. HALL, of Oneida,
R. SWARTWOUT, of Tompkins,
C. DUBOIS, of Dutchess,
C. BERGEN, of Kings,
J. J. VIELE, of Rensselaer,
J. S. SPENCER, of Madison,
HENRY S. RANDALL, of Cortland,
R. L. ALLEN, of Erie,
JOHN FRY, of Montgomery,
SAMUEL HOAG, of Rensselaer.

F. Presidents.

Secretaries.

The following delegates appeared and took seats in the convention.

Albany—Jesse Buel, John Townsend, William Thorburn, John Willard, James D. Wasson, J. K. Paige, C. N. Bement, Samuel Cheever, Charles Smith.

Allegany—Seth H. Pratt.

Cattaraugus—Nelson Green, S. A. Goodwin.

Chautauque—Geo. A. French, Abner Lewis.

Chemung—Henry Balcom, D. Hubbard, jr, Justus Pearce.

Clinton—Percival More.

Columbia—S. Van Buren, P. I. Storrs, John VanSlyck, Wm. Bain, J. P. Beekman, A. B. Ludlow, Joab Center, Wm. H. Wilson, Adam L. Shaver, I. Crocker.

Cortland—D. Matthews, I. Osgood, E. W. Edgecomb, H. S. Randall, N. Gillet.

Dutchess—Freeborn Garretson, Cornelius Dubois.

Erie—Richard L. Allen, Cyrenus Wilbur, A. Warner, L. F. Allen.

Essex—Gideon Hammond.

Franklin—Luther Bradish.

Genesee—A. H. Green, John Head.

Greene—Seth Hawley, J. P. Hawley, A. T. Van Slyck, A. Van Bergen, Martin G. Van Bergen.

Herkimer—Abijah Mann, jr, Volney Owen, Aaron Petrie.

Jefferson—D. Wardwell, Chancey Baker.

Kings—Cornelius Bergen.

Livingston—N. Scott.

Madison—Mr. Lord, Mr. Bostwick, Mr. Spencer, Derick Sibley, W. C. Bloss.

Montgomery—John Fry, G. Gortner, jr, A. V. Putnam, E. W. Frindle, J. L. Bevins, A. A. Nestall, A. W. Sebor.

New-York—John Harris, H. W. Childs.

Oneida—W. C. Noyes, F. C. White, R. Fuller, J. H. Ostrom, E. Mart, E. Elmer, H. Hearsey.

Onondaga—S. L. Edwards, E. Lynds, H. Baldwin, G. Lawrence, A. Smith, P. Gould, Victory Birdseye, James R. Lawrence, Wm. Gibbs, Henry Lawrence.

Ontario—Jonathan Buell.

Orange—Hudson McFarlan.

Otsego—Saml. Freeman, Jno. M. Richardson, A. Rice, L. Babcock, T. S. Morgan, Jos. E. Bloomfield.

Putnam—Saxton Smith.

Queens—John A. King.

Rensselaer—H. D. Grove, L. C. Ball, Jas. Wallace, Alex. Walsh, Hezekiah Hull, Wm. A. McCulloch, A. D. Spoor, Jacob Ten Eyck, Cornelius Lansing, jr, John J. Viele, Joseph Hastings, Wm. S. Clapp.

Saratoga—H. C. Foster.

St. Lawrence—M. G. Peck.

Schenectady—Jno. B. Duane, John Ferguson, W. A. North, J. H. Strang, Wm. B. Walton, J. A. Tower, S. G. Tower.

Sullivan—J. H. Bowers, Jno. Maynard, Nathan Wake-man.

Tioga—John Coryell.

Tompkins—E. Curtiss.

Washington—Martin Lee, L. Gibbs, E. D. Culver, E. Smith, J. W. Richards, Jas. Martin, Jno. Cray, L. B. Armstrong, Jno. McDonald, Thos. Whiteside, Jno. Root, Nathan Wilson.

Wayne—A. L. Beaumont.

Yates—Miles Benham.

Mr. Buel, from the committee on the subject of the Grain worm, presented the following report.

The committee appointed at the last Agricultural Convention, "to collect facts in regard to the history and habits of the Grain worm, to its ravages upon our farm crops, and to the means, if any are known, of preventing its depredations," offer the following report.—

The habits of the Grain worm, believed to be the *Typuli*, or *Cecidomia tritici* of entomologists, are yet but imperfectly known among us. We find in Kirby & Spence's Entomology, one of our best authorities upon insects, but an incidental notice of one insect that can be considered identical with this. The following is the passage:

"When the wheat blossoms, another marauder, to which Mr. Marsham first called the attention of the public, takes its turn to make an attack upon it, under the form of an orange colored gnat, which, introducing its long retractile ovipositor into the centre of the corolla, there deposits its eggs. These being hatched, the larvae, perhaps by eating the pollen, prevent the impregnation of the grain, and so in some seasons destroy the twentieth part of the crop." Vol. I. p. 172-3.

Professor Low, in his Elements of Practical Agriculture, p. 236, has the following notice of the insect:

"The *Cecidomia Tritici*, is a fly with an orange colored body and white wings. About the month of June the female ascends the ears of wheat, and deposits her eggs in these, by means of a fine trunk, and in a few days she perishes. The progeny being hatched in the ear, feed upon the grain. They are very small, from two to fourteen being sometimes found in one grain, and are distinguished by being of a bright orange color. They do not extend beyond the grain in which they had been born; but several grains being thus consumed in each ear, the damage done is often considerable. The larvae, after a period, fall down to the earth, in which they burrow, and remain there till the following summer, when they ascend from the earth in the form of the beautiful fly which has been mentioned."

Practical farmers have been able to add to our knowledge in regard to the habits of this insect. When wheat sown at the ordinary season, is developing its head, a species of fly is seen in great numbers, principally about sunset, attaching themselves to the ears, where they deposit their eggs, which in about ten days after become maggots, or caterpillars. These destroy the young pickle, by sucking up the milky juice which swells the grain, and thus depriving it in part, and in some cases perhaps of the whole of the moisture, cause it to shrink up, and become an abortion. In about three weeks after, when it has exhausted this substance the insect falls from the head, either upon the leaves or ground, and if upon the latter it shelters itself about half an inch below the surface, where it remains dormant, until the mean temperature of about 50 degrees in the spring, brings forth the perfect fly, about the time the wheat comes in the ear. Such seems to be the most accurate account of the habits of the insect which we have been able to obtain.

Mr. Henry Green, of Washington County, has cited two instances, one in his own practice, of the insects emerging from the chrysalis to the perfect fly in autumn, in immense numbers; but this was caused as he well supposes, by the heating of the grain in the barn, the chrysalis being carried to the barn with the straw and chaff, in consequence of the grain having been housed in a greenish damp state.

We find no notice of the ravages of this insect till the year 1820. During the subsequent ten years it caused immense damage in some districts of Scotland, sometimes destroying, as it has done here, a fourth, a third, or half the crop, and in many instances the grain was so badly injured as not to be worth harvesting. In 1829, in the district denominated the *carse of Gowry*, the damage which the grain worm did to the wheat crop, was estimated at nearly two hundred thousand dollars. It has been known in the northern parts of this state and Vermont for the last ten years. It seems to have been first noticed upon the borders of Vermont and Lower Canada, and thence to have extended north and south. Its progress has been from 40 to 60 miles a year, east, west and south. It has now extended through Maine on the east, to Dutchess on the south, and to the Valley of the Genesee, partially, on the west. It will probably continue to enlarge the sphere of its operations, until it embraces the entire wheat growing districts of the union.

The depredations of the grain worm have tended greatly to lessen the culture of wheat where it has shown itself, and to reduce the product of that which has been sown. The product, from these causes, has been reduced four fifths in some districts. A like diminution in the wheat districts of the west, which may be feared, when like causes operate there, will be truly calamitous, not only to the farmer, but to the state at large. We cannot shut our eyes to what has happened, nor should we disregard the admonition which it conveys, to provide against the evil in due time.

No certain preventive is known for the evil. It would seem, that the most probable means of averting it, is to sow winter wheat early, say the beginning of September, and spring wheat late, perhaps after the tenth of May, in this latitude. The grain of the first may become indurated and hard, before the worm is hatched, and will of course escape injury. The latter will come into head after the

fly has disappeared, and that too will escape. We are not prepared to say, however, that these rules will prove infallible. It is stated in the *Maine Farmer*, by Mr. Norcross, that he sowed on the last Friday of April, and on the 5th May. The fly appeared in great abundance on the first sowing, but as most of the grain was then past the blossom the injury was only in the late heads, and the damage to the crop did not exceed a twelfth. That sowed on the 5th of May was reduced in produce one half by the worm. We sowed on the 5th May, and although we saw flies upon the grain for five or six evenings after it had come into head, the injury did not probably exceed one fourth of the crop. We examined several fields of wheat sown from the 10th to the 22d May, and was not able to discover in them the least indication of the worm. These facts would seem to indicate, that if wheat is sown very early in autumn, or to late in the spring, the crop may escape the grain worm, or be but partially injured by it. Yet we want further experience—more facts—before we can lay down any certain rules.

The observations of practical men have led to this further conclusion, that good culture tends to lessen the evils of the grain worm, inasmuch as it imparts health and vigor to the crop, and accelerates the early development of the blossom in the winter varieties before the fly appears. We have had cases cited to us, where parts of fields, being low, wet, badly cultivated, or affected with rust, were almost wholly destroyed by the worm; while other parts of the same field, upon dry, well cultivated ground, and the straw unaffected by rust, were but partially, or not at all attacked—the kernel having become indurated, before the worm was in a condition to prey upon it.

It is proper we should here remark, that a complete preventative has been announced as having been discovered by S. W. Jewett, of Weybridge, Vt. We know Mr. Jewett to be highly respectable farmer; he has confided to us his secret; and we have no doubt it has proved efficacious with him. But the difficulty is in applying the preventive on a large scale, and the still greater difficulty of applying it in some districts at all. Mr. Jewett asks but a moderate compensation for his secret.

Kirby and Spence remark, in their work which we have quoted, with no little force, that among the various instruments which the Almighty ordains for the punishment of offending nations, and the more to manifest and glorify his power—

“He employs means, at first sight apparently the most insignificant and inadequate to effect their ruin: the numerous tribes of insects are his armies, marshalled by him, and by his irresistible command impelled to the work of destruction; where he directs them, they lay waste the earth, and famine and pestilence often follow in their train. The generality of mankind, say they, overlook or disregard these powerful, because minute, dispensers of judgement; seldom considering in how many ways their welfare is affected by them; but the fact is certain, that should it please God to give them a general commission against us, and should he excite them to attack, at the same time, our bodies, our clothing, our houses, our cattle, and the produce of our fields and gardens, we should be reduced, in every possible respect, to a state of extreme wretchedness; the prey of the most filthy and disgusting diseases, divested of a covering, unsheltered except by caves and dungeons, from the inclemency of the seasons, exposed to all the extremities of want and famine, and in the end, as Sir Joseph Banks, speaking on this subject, has well observed, driven with all the larger animals from the face of the earth.”

The afflicting dispensations of Providence, are not only designed to punish men for their transgressions, but to awaken in them a constant and active vigilance, essential to their health and happiness; and under this view, the injuries which we now suffer from the insect enemy which is the subject of this report, may lead to renewed exertions in the performance of the great duties of life.

The committee will close their report with recommending, that the legislature of our state be requested by this convention, to offer a liberal bounty for the discovery of a preventive of the ravages of the grain worm.

Mr. Buel also read the following most able and interesting paper,—

On the Necessity and Means of Improving our Husbandry.

We cannot be too often reminded of the contrast which exists between good and bad husbandry,—nor too often admonished to search into the causes of this difference, and to apply the needful remedies. The difference does not consist alone in a single crop, or a single season: The soil in one case is becoming more and more exhausted of fertility, and losing its intrinsic value, while in the other its relative worth is on the increase, and the difference in produce is consequently annually increasing.

We will illustrate our proposition by a comparison between American and Scotch husbandry, now and sixty years ago. Sixty years ago, the agriculture of Scotland, was in a wretchedly low and unproductive condition; while the products of our yet unexhausted soil were abundant. But sixty years ago the spirit of improvement fell upon Scotland, her agricultural society was instituted, and commenced its useful labors, and was soon after greatly aided by the organization of a national board of agriculture; agricultural surveys were made and published of every county—the best practices of every district thus became known to the whole nation—men of fortune and science turned their attention to the encouragement and improvement of this parent art;—and the consequence has been, that a wonderful and salutary change has come over that land, fraught with abundance and with blessings. The value of land has in consequence been enhanced three and four fold, and its products have been increased in a proportionate ratio. “In fertile districts,” says Sir John Sinclair,

“and in propitious seasons, the farmer may confidently expect to reap, from 32 to 40 bushels of wheat; from 42 to 50 bushels of barley; from 52 to 64 bushels of oats, and from 28 to 32 bushels of beans, per statute acre. As to green crops, 30 tons of turnips, three tons of clover, and from 8 to 10 tons of potatoes, per statute acre, may confidently be relied on. In favorable seasons the crops are still more abundant.”

Now, what has been our progress during the last sixty years? Has it not been retrograde in agriculture? We have, to be sure, obtained abundant crops from our rich virgin soils, and when these have become exhausted, under bad management, we have occupied and exhausted others in their turn. But what is the condition *now* of the lands that were cultivated by our fathers half a century ago? Do they produce the average crops which are given above as the products of Scotch husbandry?—under all our favorable circumstances of climate and of civil liberty. Are our crops *half* as large? Nay, are they more than a *third* as large? Do we get from our old districts, an average of more than 10 to 13 bushels of wheat, of 14 to 17 of barley, or of 17 to 21 bushels of oats per acre? At the close of the last, and in the beginning of the present century, the surplus products of northern agriculture were *exported*, to an immense amount. Now we *import* the agricultural products of Europe, to avert the evils of famine! The cause of this remarkable difference, in the surplus products of the soil, may be partially owing to unpropitious seasons, but is mainly to be sought for in the neglect of our agriculture—both by the people and the governments. In Europe, the governments, and influential individuals, have bestowed spirited attention upon the improvement of agriculture, as constituting the basis of national prosperity and independence. While with us, improvement in husbandry has been considered a minor concern,—it at least has not received the consideration of the statesman or the political economist. Party politics, and local or personal schemes of aggrandizement, have so much engrossed the attention of the men who *ought* to lead in these matters, and who *do* lead in every other public improvement, that the humble claims of agriculture have failed to attract their notice, or engage their attention, although it constitutes the base which supports the whole superstructure of civilized society.—If we would preserve the superstructure, with its embellishments, we must take care to make strong and permanent this foundation. Our farmers, too, seem generally indifferent, or spiritless, in regard to the general improvement of our agriculture, either because they mistake their duty and true interest, or that, under the influence of a strange fatuity, they fear they shall sink as others rise.

We should consider our soil as we do our free institutions—a *patrimonial trust*—to be handed down, UNIMPAIRED, to posterity; to be used, but not abused.—Both are more easily impaired than they are restored—both belong, in their pristine vigor and purity, as much to our children, as they do to us. In some of the once populous and fertile districts of the old continent, the fertility of the soil has been recklessly wasted by men, whose descendants have, consequently, become poor and wretched, and their country almost virtually a desert. In other portions, where the fertility of the soil has been sedulously preserved for ages, or centuries, the population has continued prosperous, wealthy and happy.

It is undeniably true, that our general system of farming is bad; that in most parts of our country the natural fertility of the soil has been gradually diminishing, and its products becoming less; that the evil is increasing; and, that without a radical reform, we shall, in the north, not only cease to have surplus products to pay for the foreign commodities which long habit has rendered necessary to our convenience, but lack a supply of bread stuffs for our own population. To what degrading dependence will this course of things in a few years reduce us—unless prompt and efficient means are adopted to check our down-hill course in the products of agricultural labor!—With the finest country in the world, a population almost entirely agricultural,—exempt from the enormous burthens, as tithes, rents and poor rates, which press like an incubus upon the agricultural labor of Europe,—and dependant on foreign supplies for the means of subsistence!! The idea is humiliating—is alarming—to all who look to the ultimate prosperity and happiness of our country. Our maritime commerce depends upon contingencies which we can neither foresee nor control. Venice and Genoa, and Portugal and Spain, have each in turn, had their “days of commercial prosperity”—they successively rose to opulence—to power—and successively sunk, the victims of corruption, into inefficiency, vice, and despotism. Manufactures too, as we have had abundant cause to know, are but a precarious dependence for national greatness. Commerce and manufactures are the shaft and capital of the social column, of which agriculture constitutes the base; and without this base, they can no more withstand the shocks and revolutions of time, than could the short lived glory of the nations we have named. Great Britain now wields the trident, and the world is made tributary to her workshops. But great as she is in commerce, and in manufactures, these are considered secondary and auxiliary to her agricultural greatness. Land is the basis of her national wealth,—it is the surplus marketable produce of her soil, says Sir John Sinclair, that is the source of all her political power, and of the personal enjoyment of her citizens; and there is no source of domestic industry, or of foreign commerce, he adds, that can in any respect be put in competition with the improved cultivation of her soil. The agriculture of Great Britain employs but two-thirds of her population; and yet the surplus products of her soil, suffice to feed and support the other third, and to assist in supplying our deficiencies. Our population is at least five-sixths

agricultural; yet during the two last years we have had to import about ten millions worth of bread stuffs to supply our deficiency in this first element of life; and even in the most favorable seasons, the exports of the surplus products of our northern soil, have been merely nominal.

We will state one fact, derived from official documents, which will demonstrate beyond the power of refutation, our down hill course in this great branch of national industry. It is this: the average increase of bread stuffs, passing from our canals to tide waters, from the great grain district of the west—from the Flanders of America,—has amounted to three and three quarters per cent; while our population has increased in the ratio of six per cent per annum! If such has been the deficiency, in our grain growing, new and fertile districts, to meet the wants of our increasing population—how much greater must that deficiency have been in the exhausted soils of old settled districts? Many portions of our country, which once exported grain, have, by bad husbandry, become dependant upon the comparatively new settlements, or upon foreign supplies, for this indispensable necessary of life. This remark will apply to almost our entire Atlantic border.—Will any mathematician tell us, how long it will require, according to the disproportionate ratio of increase, between our population and our means of subsistence, to reduce us to a state of absolute dependence? or, to a state of national want and famine.

It is apparent, from the examples of improvement which are witnessed in many districts of our country, that we CAN improve the general condition of our agriculture, if we will adopt a wise and energetic policy. Nay, we have a demonstration of the practicability of doing it, in the now palpable benefits of the law to improve our agriculture, passed in 1819. That law involved an expenditure of 40 or 50,000 dollars, and expired in 1824. It was found fault with by many from political motives, and by more from a spirit of envy, in those who either had not the enterprise or the talent to compete successfully for the rewards which it gave to industry and skill. And besides, the law, in some instances, was badly, we may almost say corruptly, executed. Yet under all the disadvantages of want of organization, of inexperience and abuse, has not that expenditure been like manure spread upon our soil? Did not that law excite a laudable emulation among the whole farming community, and bring into action more skill, more industry, and more improvement? Has it not been instrumental in greatly improving our farm stock, our farm implements, and modes of culture? Has it failed to increase the farm products of any one county, of a respectable population, to the amount of the total expenditure? Or, has it failed to return into the treasury, every year, the gross amount of that expenditure, in the form of canal tolls upon the increased productions of the soil? We do not put these questions because we have any doubts in the matter, but to bring the subject home to the calm and deliberate consideration of those reflecting men, whose duty and interest it is to scan, to judge, and to act wisely, upon a question of momentous importance to our country. If these men think with us, that the law of 1819 has amply remunerated the state, for its expenditure, on the increased tolls on our canals, and that it has added millions to the value of our annual agricultural products, they will not hesitate to renew that policy which has been productive of so much public good. The improvements of the last eighteen years might have been respectable without the aid of that law; but it was *that* which gave a new impetus to improvement. The fairs and exhibitions which it produced, taught our farmers, that there was yet much to learn in their business;—that they could improve, in their farm stock, in their farm implements, in their seeds, and in their modes of culture—and many of them resolutely determined to profit, and did profit, by the lessons of instruction which they then imbibed. And when the spirit of improvement has begun, it is like civil revolution,—it seldom retrogrades. One improvement leads to others, as naturally as the active mind, having attained to one branch of knowledge, soars to other and higher branches. Our southern brethren say, we are in advance of them greatly in agricultural improvement. If this is so, we owe this distinction in rural improvement to the law that was passed, upon Gov. Clinton's recommendation, in 1819.

It requires no science, and very little art, to wear out and exhaust the most fertile soil. The process is simple: take from it all you can, by close cropping, for a few continuous years, and return to it nothing in the form of manure, and the work is done, or far advanced. In this business we have shown ourselves to be no mean adepts. But it does require science, and art, and perseverance and capital, to restore fertility to a soil which has become exhausted. This we have not yet sufficiently learned; but it should be our next lesson; and the sooner we begin, the sooner shall we profit by it.

Agricultural improvement is slowly developed, at least to superficial observers. It requires years to renovate the fertility of an exhausted soil—to improve the stock of a farm; or to realize the benefits which result from draining, from alternating crops, and from root culture. We are much in the habit of calculating upon *immediate* gains, without looking to remote and ultimate benefits. We saw not the change, when the law of 1819 was in force, because its benefits were but partially developed. But we now hear the remark from hundreds, that the appropriation of 1819, was one of the most beneficial to the state that has ever been made by the legislature. The popular vote of the state would never have sanctioned the construction of the Erie and Champlain canals; and yet the wisdom of the measure is now sanctioned by an enlightened world. Although the construction of these canals, may have operated prejudicially to some individuals and districts, yet the benefits which have resulted to the whole state have

amply compensated for any personal inconvenience or injury they may have caused. So with the law to encourage agriculture; many did not foresee its benefits, who now acknowledge that they are palpable and important. We must judge of public measures by their fruits; and before we are competent to do this, the seed must germinate, the plant grow and blossom, and the fruit mature. This is particularly the case in all measures to improve agriculture. It is the province of wisdom to look ahead—to sow the useful seed, and to wait the coming harvest for the recompense. We must sow in the spring—and cultivate well in the summer, if we would gather an abundant harvest, in autumn.

We may almost lay it down as a maxim, that **THE MENTAL AND MORAL CONDITION OF AN AGRICULTURAL DISTRICT, IS IN THE RATIO OF ITS IMPROVEMENT IN HUSBANDRY.** To borrow the spirit of a political saying—as goes agriculture, so goes the state. There is certainly much truth in the remark, that where the farming is slovenly and bad, ignorance, indolence, and vice, most generally abound; and that where agricultural improvement is most advanced, the population are most industrious, most intelligent and most moral. Knowledge begets a love of knowledge; and when a man has acquired enough of it to convince him of its utility in his business, he considers it a part of his farming capital, and he is anxious to increase his stock of it, as the readiest means of improving his condition in life, independent of the mental pleasures which it imparts. But not having acquired the requisite degree to enable him to appreciate its value, or to show him the defects of his system of management, he plods on, with listless indifference, in the ways of his fathers; and as great success, now-a-days, seldom rewards such labors, he too often becomes spiritless and dissatisfied, and relaxes into indolence, of which vice is too frequently the concomitant.

Under the existing state of things, how does it become us to act? What are we to do? Shall we fold our arms, leave agriculture to decline further, or to shift for itself, and depend upon more propitious seasons, and other Providential interpositions, to supply our wants? Shall we depend upon the cotton, rice and tobacco of the south, which constitute our almost entire exports, to pay for the foreign commodities which we consume in the north? Or shall we, animated by the enterprise and love of independence which were wont to animate our fathers—take in hand resolutely to provide abundantly for ourselves, by encouraging and enlightening agriculture, elevating its character, and stimulating it to new efforts, by suitable honors and rewards?

As regards the means of improvement, much has been done, and much is doing, by the agricultural periodicals of the day. The first of these was established at Baltimore, by John S. Skinner, in 1819; and we can now enumerate nearly twenty, that are diffusing light, awakening enterprise, and inciting to industry, in every section of our country—Probably one hundred thousand farmers, are now deriving instruction, and improving their practice, by the perusal of these journals; and it is not extravagant to say, that the benefits they are dispensing to the nation are equivalent to millions of dollars every year. But what is one hundred thousand compared to the gross agricultural population of the union?—and how much greater would be their benefits if these Journals had access to every farm house, or even to every school-house, in the state? Besides giving much that is useful in the science, or the first principles of husbandry, they are continually advertising their readers of every improvement which is being made in the practical operations of the farm—of new seeds, and plants, and the mode of cultivating them, and of every improvement in labor-saving machines. In twelve numbers of the Cultivator may be noticed more than a hundred and twenty communications, mostly from practical farmers, residing in the different states, detailing their practice in different departments of husbandry, thus making their improvements known, in a short time, to its twenty thousand patrons.

By thus concentrating, as it were in a focus, the practical knowledge of the country, and then scattering it, like the solar rays, into every corner of the land, to fructify the earth, and by thus rendering it subservient to the benefit of all, some individuals have been enabled to obtain a clear profit of fifty, one hundred, and even one hundred and fifty dollars, on an acre of corn, or an acre of Swedish turnips, who had never before obtained a profit of thirty dollars an acre from either. And the benefits of these splendid results are not confined to the individuals who effected them: they are heralded in the agricultural journals; become known all over the country; and every new and successful effort at improvement, soon has its fifty, its hundred, and its thousand imitators. Suppose, for instance, what we hope will yet prove true, that an individual should discover an effectual preventive of the ravages of the Hessian fly, or grain worm—instead of benefitting him and a few neighbors, or becoming gradually known, as in olden times, the knowledge of it would now be spread in a few days, by the agricultural periodicals, into every corner of the land, and the advantages of the discovery would thus amount to millions in a single year. So with every other improvement in husbandry. It is not the province, nor is it the study of news journals and literary editors to deal extensively in agricultural concerns. They seldom publish even the incidental notices which are designed to subserve the interests of husbandry, without a special request, and a fee in the bargain, as though they had no personal interest in the progress of agricultural improvement. We would infer from these premises, that every man will promote his interest, and benefit the public, by patronising and endeavoring to extend the circulation of our agricultural papers. They tend to no possible

evil, while they are certainly calculated to do much public good.

Another means of facilitating agricultural improvement, is to introduce class books, into our common schools, for the senior boys, which shall teach those elementary principles of science which are indispensable to the successful practice of agriculture. A boy may be almost as easily taught to analyze soils, and to comprehend the leading principles of animal and vegetable physiology, as he can to commit to memory pages of matter, the knowledge of which seldom serves him any useful purpose in manhood. We must begin in youth, if we would bring about any material improvement in the habits of society. The good seed that is sown in the spring time of life is never lost,—it will ultimately sprout, and grow, and give its increase, as surely as the grain which we deposit in a fertile soil. The tree will grow as the twig is bent. Youth is the season to get instruction in the principles of the business which is to constitute the employment of life; and the more the knowledge which boys acquire in these principles, before they start in life for themselves, the more likely they are to prosper and become useful to society. The time that the senior boys in school devote to the business of the farm, will give to studies which are connected with their present and future business, an interest and an influence which will be as abiding as life.

But we would go farther in the business of agricultural instruction;—we would establish schools to teach simultaneously, both the theory and practice of agriculture. We would carry something of the theory into the primary schools, and much of the practice into the schools of science. Veterinary schools, to instruct in the anatomy and management of domestic animals, have long been established in Europe; their usefulness has been highly extolled, and their numbers are increasing. Switzerland, Prussia and France have also their schools, in which the science and practice of agriculture are taught to hundreds of young men, who are thereby enabled to manage their estates, with greater benefit to themselves and the public, or to obtain honorable and lucrative situations as managers for others. We give bounties on our fisheries, to make them a nursery of seamen; but we give none upon agriculture, which is the best nursery of freemen.—We spend millions annually to protect our commerce; but we give nothing to improve agriculture, which is the basis and support of that commerce. We protect our manufactures by a heavy tariff; yet agriculture, which furnishes the raw materials, and buys the fabrics, which the manufacturer consumes and vends, is left to protect itself. We have expended nearly three millions in this state, to aid in educating almost exclusively professional and other gentlemen; and yet we have given nothing exclusively to educate our agriculturists, who constitute the great mass of our population. And yet there is probably no employment in life capable of being more benefited by a professional education—none in which a professional education would conduce more to the public prosperity—than that of managing our farms. A proper knowledge of soils, manures, vegetables and animals—of the agency of caloric, of moisture, of the atmosphere, and of light, in the economy of vegetable and animal growth—are all of great use to the farmer, and yet in what existing school can he acquire this knowledge, during the period of life in which he ought to obtain his practical knowledge?

All impressions of general reform, to be successful, must be first made upon the ductile minds of the younger population. The old are apt to be too obstinately wedded to their juvenile habits and prejudices. Men are apt to grow up in the creeds in which they are instructed—be they Christian, Mahomedan or Pagan—be they of good or bad husbandry. And if our youth are early instructed in the first elements of agriculture, and taught to consider it, what it truly is, an employment eminently calculated, above all others, to promote individual and national prosperity and happiness, they will aspire to honor and distinction in its labors—and will not so generally press to the cities—to the bar and the counter,—for the means of gratifying a laudable ambition. And society will reap an abundant reward from the change. We will illustrate this by an historical fact. Ernest, former Duke of Saxe Gotha, had his people instructed by compendiums of every kind of useful knowledge, including music and drawing, that were put into the hands of youth in all country schools; and which in a few years entirely changed the face of his principality: and “it is amazing,” adds our author, who wrote some years afterwards, “to observe the different irradiations of genius, in this and the adjacent circles.” The effect was alike beneficial in the improvement of the soil and the mind. And the example of Saxe Gotha, probably led to the excellent system of school instruction in agriculture which has since been introduced by Prussia, and most of the German states.

It has been stated, as an objection to the establishment of agricultural schools, that they would be only accessible to the rich. This objection, even if well founded, would not go to lessen their value to the state: For if we could convert a few hundred drones, as the sons of rich men may generally be termed, into working bees, the public, as well as the young men themselves, would certainly be gainers by the transformation. The complaint is that we have too many consumers, and too few producers. This would tend to restore an equilibrium: For the examples of the rich, be they good or bad, have an imposing influence on the middling and lower classes; and thus to improve the habits and morals of the rich, would be the surest way to improve the condition of society. Hence, therefore, if agricultural schools can be instrumental in annually converting a few hundred of the idle and dissipated sons of wealth—or rather in preserving them from these habits—into wholesome industrious farmers,

agricultural pursuits will be more respectable and more followed; and we venture to predict, that then we shall not long continue to do, what we have done—import potatoes from Ireland and Germany, hay and oats from Scotland, eggs from France, and bread stuffs from all the countries of Europe, including the dominions of the autocrat of Russia and of the Grand Turk.

But it is not exactly true that the rich alone would find access into agricultural schools, were such established.—The rich rely upon their paternal wealth, and have not often the ambition to become useful, at least by the habits of manual labor, which would be rigidly required in such schools. The schools would be filled with the youth from all classes of society, who aspired to fortune and independence, by a manly exercise of their mental and physical powers—the young men of this description, even from the poorer classes, do obtain admission into literary institutions, and they would into agricultural ones with greater facility,—because the terms of admission here would be more reasonable—and with equal prospect of distinction and usefulness in after life. But whether these schools should be filled from the rich or poorer classes, or, as we have supposed, from all classes indiscriminately, a certain and great public good would result from their establishment: the pupils would go to swell the producing classes of society, with habits of application and usefulness, minds imbued with scientific knowledge, bodies hale and robust, and hands practiced in all the manual operations of the farm.

It verily seems to us certain, that if the importance of the subjects which we have discussed, could be justly appreciated by the community at large, every class of our citizens would concur in the propriety of a united effort to improve the condition of our husbandry, and of speedily adopting the measures we have suggested, or others equally availing, to produce the desired result.

On motion of Mr. Beekman,
Resolved, That the thanks of this convention be presented to Judge Buel, for his communication on the subject of the improvement of agriculture, and that a copy be asked for publication.

On motion of L. F. Allen, it was
Resolved, That a committee of five be appointed for the purpose of considering the propriety of introducing into our common schools, books which treat on agriculture.

The resolution was advocated by Messrs. Allen, Mann, Viele, Cheever, Bradish, Owen, Patterson, and Sibley, and opposed by Messrs. Culver and Cray. Before the question was taken, Mr. Buel offered the following substitute.

Resolved, That the introduction of elementary books upon agriculture and rural economy, into our common school libraries, as occasional class-books for boys, is considered by this convention as eminently calculated to advance agricultural improvement, to encourage industry, and to promote the moral health of society.

The substitute was supported by the mover, Mr. Cray and Mr. Patterson, and opposed by Messrs. Richards, Allen and Baldwin.

Mr. Culver offered an amendment to the substitute, which was lost; and the question being then taken on the substitute, it was lost also. The original resolution was then adopted.

The chair named the following committee: Judge E. Cowen, of Saratoga, Messrs. Allen, of Erie, Wardwell, of Jefferson, Mann, of Herkimer, and Baldwin, of Onondaga. The following resolution was submitted by Mr. Wardwell, of Jefferson, and laid on the table.

Resolved, That a committee on the culture of the sugar beet, and the manufacture of sugar therefrom, be appointed, whose duty it shall be to examine into the subject generally, and give the result of such examination at the next annual meeting of this convention.

The following resolution was submitted by Mr. Richards, of Washington, and laid on the table.

Resolved, That a committee be appointed to report to the next convention, any further information which may be collected on the subject of the grain worm.

Mr. Baldwin, of Onondaga, submitted the following, which was laid on the table.

Resolved, That in the opinion of this convention, the existing laws relating to highways in this state, are defective, and require revision by the legislature.

The convention then adjourned to meet at 4 o'clock, tomorrow.

Friday, Feb. 2. A. P. M.

On motion of Mr. Beardsley, of Otsego, it was
Resolved, That a committee of three practical and scientific agriculturists be appointed, whose duty it shall be to report to the next convention, upon the possibility and best practical method of extirpating the *Canada Thistle*, one of the most formidable enemies to successful agriculture.

Messrs. Beardsley, of Otsego, Duane, of Schenectady, and Fry, of Montgomery, were appointed said committee. The consideration of the resolution submitted by Mr. Wardwell, on the subject of the culture of the *Sugar Beet*, &c. being called up, it was discussed, and adopted, and the following gentlemen appointed to report thereon, viz. Messrs. Wardwell, of Jefferson, Jonah T. Marshall, of St. Lawrence, and S. Cheever, of Albany.

On motion of Mr. Buel, it was
Resolved, That inasmuch as most of our wealth is derived from the cultivation of the soil, it is politic and just that a portion of our revenue should be applied to the improvement of the soil, and that, therefore, in the opinion of this convention, a part of the interest accruing from the investment of the surplus revenue, ought to be specially appropriated, by the legislature, to the improvement of the agriculture of the state.

Mr. Viele, from the committee appointed at the last annual state convention, under the resolution "to inquire whether in the distribution of public monies in aid of agriculture, a better mode can be devised than that of giving it to county agricultural societies to be awarded in premiums," reported to the convention,

That by reason of their being located in different parts of the state, the members of the committee had not the opportunity for meeting and consultation, but they nevertheless brought their individual minds to bear upon this important subject, and are highly gratified in being able to find on coming together at this time, that the result of their reflections had brought them all to the same conclusion. They would however express their regret that the occupation of the short time allotted them, by their duties in the State Society and Convention, have precluded them from doing the subject that justice its importance demands.

The policy of appropriating public monies to stimulate to exertion the laboring and producing classes, and also to elicit the inventive genius of our country, has of late received much of the attention of the most enlightened and patriotic minds in this community; and as far as the committee have been able to ascertain, such attentions and reflections have almost invariably brought them to the conclusion, that the adoption of such a policy, would in its practical results be productive of the greatest benefits to the community.

That it would elevate and ennoble the character of our agricultural community—that it would rescue from ignorance, (we had almost said ignominy) this most useful class of our citizens—that would equalize in point of honor and respect the different occupations and professions—that it would improve not only the soil but the mind—that it would vastly increase the products of the earth, and by calling forth the inventive talent of the country, lessen the expense of production and manufacture—that it would enhance the value of our real estate by doubling its productions—that it would be productive in a degree, of a spirit of contentment, which would arrest the tide of emigration, that is abstracting our population, our labor and our wealth—that instead of impoverishing, it would enrich the public treasure, by increasing the taxable property of our state, and increasing those productions which require transportation, and consequently the revenue derived from our public works—in a word, that it would redound to the honor and promote the prosperity of all and every interest in this great state, the committee cannot entertain a doubt.

In coming to this conclusion, they do not rely upon what has perhaps too justly been termed "vain theory and idle speculation," but they have consulted the experience and practical results of those countries and states, who (with "shame and confusion of face" we acknowledge) have gone ahead and taken the lead of our boasted "empire" in this march of improvement.

Improvement in this branch of domestic industry is a distinguishing feature between civilization and barbarism, liberty and despotism—wealth and poverty—moral and intellectual advancement and mental degradation. Thus we see the more liberal and enlightened nations of the eastern continent encouraging and patronizing this great interest, which lies at the foundation of all true national greatness, and under proper attention is the prolific source of a nation's prosperity and wealth. Most of the governments of Europe have set apart a portion of the public bounty, and adopted some system, to increase the productiveness and enhance the value of well applied labor.

In France great encouragement is given to the cultivation of the vine and the sugar beet—two objects to them, of great national importance. Germany has proved the wisdom of her councils, by the establishment and patronage of schools, devoted to scientific and practical agriculture. Prussia, too, has shown that she is not asleep to her interest, by the introduction at the public expense, of the science and practice of this invaluable art into all her public schools. On the other hand, the despotism of Russia, neglecting alike the improvement of her agriculture and her semi-barbarous population, labors studiously to keep her boors and serfs in a state of vassalage and mental degradation; and chooses rather to expend the treasure which legitimately belongs to the people, in a forty years war with the Georgians and Circassians, with a view ultimately to wrest from Great Britain her most profitable trade with the East Indies. Great Britain, always alive to what promotes her interests, has adopted an enlightened policy on this subject, and Scotland, by means of her societies and premiums, has brought that romantic country,

"Where wild woods grow and rivers ro'
Wi' mony a hill between,"

into a state of improvement and cultivation that challenges the admiration of the world.

While these efforts have been making abroad, and while this improvement has been going on, our own country, favored of Providence above all others, in the richness of her soil and the enterprize of her citizens, has been retrograding, or at all events, remaining stationary, in the condition of her agriculture.

The consequence has been, that with all our boasted independence, and with all our natural advantages of soil, climate, and the industry of our citizens, we have been dependent upon these foreign despotisms for the means of subsistence. To say nothing of luxuries—in a time of almost universal peace and prosperity, even the "staff of life" has been suffered to fall from under us, and we are obliged to trust to one, "that while we lean upon it, it pierces us." We allude to the most astonishing and humiliating fact, that our country, the most fertile and productive of "Gods heritage to man," has been under the necessity—and is even at this time importing her bread-stuffs, forage &c. to support a population essentially agricultural, in a

country the best adapted by nature to the growing of grain of any in the world.

The committee however congratulate themselves and the community, that public attention is being more directed to this subject. The people generally are arousing from their stupor, and public opinion, that mighty engine of all moral and civil reform, the resistance of whose breath is as fatal as the deadly Simoon of Africa, is beginning to move, and we have good reason to believe it will advance until its influence shall reach our legislative halls, and induce those entrusted with the public weal, to see to it—to protect, encourage, and advance it—instead of spending the people's time and money in useless political manoeuvring; in making political harangues for out-door effect.

Among the evidences we have that "the people are a coming" on this subject is, that in many of the states of the union, legislative action has been already had, and an enlightened policy adopted, which has already been productive of much good.

Among the first to advance in this matter was the state of Massachusetts. She encouraged some years since the establishment of County Societies, and sustained them by liberal appropriations. The law under which they organized expired not long since, and she has proved her devotion to this cause by a renewal of the same. This is conclusive evidence to her, that the policy is sound and salutary, and in perfect accordance with the views and wishes of her enterprising and thrifty population. The State of Maine has also given an example of great wisdom and liberality in recent efforts to improve her agriculture. The bounty which she this year pays to her citizens, to encourage the culture of wheat alone, will draw from the treasury more than all the expenditures which the "Empire State" has ever made directly in aid of agriculture.

Several of the other states have taken measures for the establishment of agricultural schools, and others have offered liberal bounties to encourage various useful and lucrative branches of home industry, as the cultivation of the sugar beet, the mulberry, and the production of silk.

The indications of public sentiment in our own state, we are happy in stating, are as far as we have been able to ascertain, in favor of a judicious and liberal appropriation by the state, to promote and advance the condition of her languishing agriculture.

As to the question raised by the resolution under which the committee act, we would remark; that although the establishment of schools, especially devoted to the education of young men in scientific and practical agriculture, is a matter of very great importance, demanding upon every principle of justice and expediency, the attention and patronage of the state, still they believe that more immediate and more general benefit would be derived from the establishment of a state board of agriculture, with branch societies in the several counties of this state; each having the power and authority, under proper regulations and restrictions, of awarding premiums for the production of the greatest results with the least expense in tillage; and also for the invention of useful and labor-saving implements for production, or machinery for manufacturing.

By this mode of distribution an immediate advantage would be reaped by the present generation of farmers, which perhaps no other means would reach. There is a class, we regret to say, in this community, so "wise in their own conceit" as to be above all improvement, in this most complicated and imperfectly understood art. So riveted are they to their old practices, that every improvement is denounced as an innovation. Even the most palpable errors in practical husbandry, having the sanction of ages, and having been handed down from sire to son for "time the memory of man runneth not to the contrary," they are loth to acknowledge, and slow to correct. This class composing the most illiterate of the community, and having passed the meridian of life without cultivating their minds, would derive little or no advantage from the slow but sure process of diffusing knowledge by means of schools. But by means of societies, distributing premiums, the whole community would be excited and vie with each other to excel in all that relates to their occupation. The effect would be to improve this class, not by reason of themselves, but in spite of themselves. Every step in improvement would add not only to individual but to national wealth.

The law of 1819, "to improve the agriculture of the state," although limited in its operation and duration, was productive of a vast amount of good to the people of this state. Although imperfectly, and in many cases, badly administered, as all new undertakings are liable to be, it gave an impulse to useful enterprize and improvement, which is felt and acknowledged up to this day. It improved our farm stock—farm implements—farm crops and modes of culture. That law involved a public expenditure of about thirty thousand dollars, and the committee are induced to believe that no like sum has ever been expended from the public treasury with greater public advantage. The advantages derived from it are now palpable, and acknowledged by all intelligent men who have reflected on the subject. It is the opinion of men whose judgment is entitled to the greatest respect, that the expenditure has been more than thrice returned to the treasury, in the form of canal tolls upon extra products of the soil, which it virtually created.

While, therefore, we are unwilling to say that any better mode can be devised, in the distribution of public monies than that of awarding it in premiums, still we confidently hope that something also will be done for the rising agricultural generation, by the endowment of schools, where the sons of farmers can be educated in a manner suitable to their occupation, and taught those branches of science which are applicable to those arts and that business, which they are destined to pursue through life. It

is only through schools that we can ever hope to elevate the intellectual character of our yeomanry. It is to the youth of the country that we must look, for a simultaneous improvement of the soil and the mind. They will soon be our Legislators, our Judges and our Jurors. They are to be the future guardians of our liberties, and all those invaluable privileges which we enjoy.—Is it not important then that they should be properly qualified by education, for the discharge of these sacred trusts? Five-sixths of the population of the country are engaged in agriculture, and in a measure deprived of the means of a suitable education. In view of these facts the committee believe that it would be the dictate of wisdom, to make suitable provision for the education and diffusion of knowledge among this class of our citizens. On the score of justice, they have a right to demand it. As a matter of expediency, it does not seem to admit of a question.

In conclusion the committee would respond to the language of the resolution which created them, that in their opinion, there is no way that public money can be appropriated more beneficial to the cause of agriculture than by awarding it in premiums, and they confidently hope that the legislature will adopt a policy worthy of our great state, and discard that "penny wise and pound foolish" system which has hitherto rejected all applications on this subject.

They, therefore, recommended to the convention the adoption of the following resolution,—

Resolved, That in the opinion of this convention, an appropriation ought to be made from the public treasury—

1. For the purpose of establishing a State Board of Agriculture;
2. For the improvement of agriculture through agricultural societies to be established in the several counties;
3. For the endowment of a state agricultural school or schools.

The report was accepted, and the resolution being under consideration, it was, on motion of Mr. Cray, of Washington, divided; and the first numbers thereof, recommending an appropriation of public monies for establishing a central board of agriculture, and county societies, was passed unanimously. On the last number of the resolution, recommending the appropriation of monies towards the establishment of schools of agriculture, considerable debate ensued, in which Mr. Cray opposed, and Messrs. Mann, Allen, Buel, Baldwin, and Gen. Root, of Delaware, supported the proposition; and the entire resolution was finally adopted by an almost unanimous vote.

On motion of Mr. Beekman, the president was desired to read a letter addressed to him by Willis Gaylord, which having been read, a copy thereof was requested for publication, and is as follows:

Office, Onondaga County, Jan'y. 29, 1838.

J. R. LAWRENCE, Esq.—
Dear Sir,—I last evening received the Evening Journal of the 24th, and have only one apology to make in answer to the query it contained. Though I knew, at the time of receiving your last kind letter requesting the draft of a bill and report, that there were multitudes who could perform the service as well, and perhaps better than I could, yet as it was a subject in which I believed the public was deeply interested, I determined to do what I could, and had commenced throwing my ideas on the matter together with the intention of reducing them to form thereafter, when I was taken with a weakness and partial inflammation of the eyes, which has effectually prevented any further progress. Even this is written with difficulty, and must be finished at intervals, and probably contrary to what might be deemed prudence where the eyes are concerned.

Soon after I received yours, I addressed a letter to Col. Voorhees, and received an answer, going into the details of his plan somewhat at length, which, with some remarks on the system proposed, I presume, will appear in the Genesee Farmer, of this week. I can see no reason why the plan of experimental farms may not be connected with County Societies, or why such farms should have any influence in preventing aid from the treasury of the state, to such societies, and the Col. I think is of the same mind. I have been looking over the law of 1819, and think it might be safely adopted as the base of a new one with one or two exceptions. My ideas on the subject are about these—

I would have a sum of money appropriated for this purpose from the treasury; say for form sake, 100 dollars for each member of assembly; or 400 to this county. This money should be at the service of the county society on condition that the society raised by voluntary subscription one half that sum, (the old law allowed only as much as was raised by the subscription) or in the same proportion for any smaller sum subscribed; so that if \$200 was raised by subscription, the sum to distribute would be \$600; and so in proportion. I would not have the choice of officers confined to practical farmers; and this I think was one of the most fatal features of the old law; for experience proves that they are not the most fit persons to manage concerns of that kind. In superintending the ploughing; in estimating the qualities of stock, or the productions of the soil, the practical farmer is at home; but in conducting the affairs of such societies they usually fail. The choice of officers of the society should therefore be unfettered. I would have no money taken from the treasury unless societies were formed and in actual operation, and the certificate of the treasurer of the society should state that the money subscribed was actually in his possession before he could draw from the treasury. The state therefore would have every security that the money granted would be carefully appropriated, and whatever the sum granted might be, if no societies were formed under the law, no money of course could be taken from the treasury.

The act as amended in 1822, authorised the supervisors to raise and expend money as they pleased for the benefit of agriculture and domestic industry. This I think was preposterous. The society should have the expenditure of all the moneys raised; for if there is not spirit enough in any county to form a society, it is idle, and worse than idle, to levy a tax on the inhabitants for distribution by supervisors.

The societies must embrace the plan of *annual shows*, and the *distribution of premiums*, or no legislation will be productive of benefit. These constitute the springs that must move the whole machinery, without these nothing can or will be done.

A general law embracing the formation of associations for experimental farms, might also be passed, either in connection with, or independent of the county societies. If such farms were established near the centre of the county, they might serve as places where the annual fairs might be held as well as farms on which the most improved systems of husbandry could be exhibited. I have no doubt that such a farm properly conducted might be a profitable speculation to the stockholders, as well as beneficial to the community; witness the sales of improved animals, made by Bement and others, at prices which would justify the greatest care and attention.

You have undoubtedly seen by this county papers, that a meeting is to be held this day at Syracuse, for the formation of a County Agricultural Society. I trust it will be well attended, and only regret that I could not have been present. This county should have a society, whether aided by the state or not, that will be active and efficient. We have the means, and we must have the spirit. But I think it can be demonstrated, that every dollar the state pays out, to promote agriculture, will be returned to the treasury eventually fourfold.

From the Governor's not introducing the subject into his message as he usually has done, I was apprehensive the whole matter would fall through, and no committee be appointed; and even now I do not know who the members of the committee are, except that L. F. Allen is chairman. I think this a most fortunate selection, as there are few men more thoroughly acquainted with the subject in all its bearings, and more capable of taking enlarged and liberal views of the matter, than he. With your aid I am confident justice will be done; and whether we get such a law passed, or whether old prejudices will operate so far as to defeat the object, the friends of the best interests of the state will at least have the consciousness that they have done their duty.

I remain yours respectfully,
WILLIS GAYLORD.

On motion of Mr. Baldwin, it was

Resolved, That this convention memorialize the present legislature for an appropriation for the objects enumerated in the resolution just adopted.

Messrs. S. Cheever, F. Retch and J. P. Beekman were appointed a committee to draw up said memorial.

On motion of Mr. Randall, it was

Resolved, That a committee of three be appointed to prepare the proceedings of this convention for publication; and that said committee furnish the publishers of *The Cultivator* and *Genesee Farmer* with copies of the same for publication.

Messrs. Randall, Buel and Baldwin were appointed said committee.

The following resolutions were submitted by Mr. Buel, and adopted.

Resolved, That the introduction of foreign seeds and plants, through our consuls, public ships and merchant vessels, and the establishment of an office at the seat of the general government, for the reception and distribution of such seeds and plants, would conduce to the improvement of our farms and gardens; therefore,

Resolved further, that this convention respectfully request the Senators and Representatives of this state, in the Congress of the United States, to use their exertions for the passage of a law for procuring such seeds and plants, and the establishment of such office, to be under the supervision of the commissioner of the patent office, or of such other responsible officer as congress in its wisdom may designate.

Copies of these resolutions were directed to be signed by the presiding officer of the convention, and forwarded to our senators and representatives in congress.

The convention then took up the resolution offered by Mr. Baldwin yesterday, "to petition the legislature to alter the existing laws in relation to highways," and adopted the same.

On motion of Mr. Richards, the committee appointed last year on the subject of the grain worm, were requested to continue their investigations, and to report thereon at the next convention.

On motion of Mr. Baldwin,

Resolved, That the thanks of this convention be presented to the Hon. the Assembly, for the use of their chamber for this convention.

On motion of Mr. Baldwin,

Resolved, That the thanks of this convention be presented to the president and vice-presidents, for the able and dignified manner in which they have presided over its deliberations, and to the secretaries thereof, for the performance of their duty.

On motion of Mr. Grove,

Resolved, That a state agricultural convention be appointed to be held at the City Hall in the city of Albany, on the first Wednesday in Feb. next.

The convention then adjourned without day.

JAMES R. LAWRENCE, *President*.

HENRY S. RANDALL, *Secretary*.

Gen. Root's Remarks.

In the agricultural convention, a resolution being under consideration for memorializing the legislature, to appropriate a part of the interest of the surplus fund towards an agricultural school or schools, Gen. Root, of Delaware, rose in support of the resolution, and offered the following, among other reasons, in support of the propriety of such an appropriation.

Gen. Root proceeded to state, that the fund in question originated in a surplus revenue, which had grown out of proceeds of the sales of the public lands. It had appeared by the treasury reports, that the customs and other sources of revenue, exclusive of the public lands, had been, for the last four or five years, just about enough to complete the extinction of the public debt, and meet the ordinary expenses of government. The avails of the public lands, for the last five years, very nearly gave the exact amount of the surplus, directed by the act of congress to be distributed among the several states, to be deposited with them, and to be redrawn, when needed, by the secretary of the treasury. By the late act, postponing the payment of the fourth instalment, it is provided, that the secretary shall not draw upon the states, until directed so to do by act of congress. This act will virtually give to the states the absolute dominion over this money. The only question that remains is, how the interest arising from this fund shall be appropriated. By the bill, commonly called Mr. Clay's land bill, which some years ago passed both houses of congress, and by a large majority in each house, it was provided, that the net proceeds of the public lands, for five years, should be distributed among the several states, for the purposes of EDUCATION AND INTERNAL IMPROVEMENTS. This bill did not become a law, as it was withheld by the president, and not returned with his objections, till the meeting of a new congress. The people, however, had expressed their will in regard to the disposition of this fund, in the only way the constitution of their own choice had provided for the expression of that will,—that is, through and by their representatives. That national domain, which was constituted by cessions of the several states having claims to unseated or crown lands, as they were then called, and lying within the limits of their respective charters, belonged to all the states then existing, or thereafter to be admitted into the union. It belonged to the whole, as a fund pledged for the redemption of the debt incurred by the war of the revolution; and after the extinguishment of that debt, its proceeds rightfully belonged to the states, to be divided among them, according to their federal numbers. The people, through and by their representatives, have declared, that the interest arising from this fund, so distributed, ought to be applied to purposes of education and internal improvement, and we have it from very high authority, that the will of the people is the supreme law.

This state has additional reasons, and stronger perhaps than any other state in the union, to apply the whole of this fund to the purposes of education. We have already our system of internal improvements, with an accumulating fund for their onward and progressive march. The legislature may, therefore, be spared any pressing importunities for such objects. And further, the people of this state have solemnly declared in their constitution ratified by them, that the proceeds of its own public lands shall be permanently devoted to the support of common schools. As the people of this state have, by solemn constitutional enactment, thus proclaimed their will in regard to their exclusive domain, we have reason to believe that their representatives, in the state legislature, will feel, that they are acting in obedience to the will of their constituents, by appropriating the whole of this fund to the various branches and schools of education.

The only remaining question to be examined, said Gen. Root, is whether an agricultural school, including, of course, the art as well as the science of horticulture, would come within the provision of common schools, or of academic schools, in which are taught the higher branches of an English education. The education of the rising generation, he said, had always been held by him as a matter of public concern and public care. The whole people—the political community, were deeply interested in educating its children, and fitting them for the various duties and avocations they may be required to perform. The training and development of the moral and intellectual powers are all-important,—so are the exercise, guidance and discipline of the physical powers. If it is the part of a common school education "to teach the young idea how to shoot," it is no less so to direct the tender limbs and muscles how to exercise. By exercise, a vigorous exercise of the muscular powers, the mental are undoubtedly improved. The exercise of the one, imparts a vigor not only to itself, but to the other. And are not the rural exercises pertaining to the field, or the garden, better calculated to give strength to both, than the playful sports usual with school boys?

Gen. Root then adverted to the propriety of annexing to our academies, or to some of them where it could be conveniently obtained, a piece of ground, if not sufficient for extensive agricultural, yet ample for horticultural pursuits. Chemistry, geology, mineralogy and botany, are among the higher branches of an English education, which entitle an institution to draw for its student a distributive share from the literature fund. Is not a practical application of these sciences necessary to fix them upon the understanding, and make them enduring upon the memory? Not more necessary are maps and globes to the young students in geography and astronomy, than a practical observation of the soil, the seeds, and the growth of plants, and the use of the various implements of husbandry and gardening, are to the student in rural labor. Natural philosophy, too, cannot attain its highest elevation, cloistered within aca-

demic walls. Let its votaries learn to guide the plough, and till the furrowed glebe, and they may vie in vigorous and manly thought and action with the peripatetic and gymnastic youth of ancient Greece.

Gen. Root concluded by expressing a hope, that the resolution would meet the decided approbation of the convention—that a respectful petition be prepared and presented to the legislature, and that its prayer would be granted by that honorable body.

In Assembly, February 10, 1838.

Report,

Of the committee on agriculture, on the memorial of the State Agricultural Convention assembled in Albany on the first day of February, instant.

Mr. L. F. Allen, from the committee on agriculture, to whom was referred the memorial of the State Agricultural Convention assembled in Albany on the first day of February, instant, reports:

Although the duties of the committee on agriculture have oftentimes been considered rather nominal than active, yet your committee, on a review of past years, and a careful examination of the present condition of the state, have come to the conclusion that a serious responsibility, at this time, rests upon them; that they are charged with some of the highest duties which devolve upon the legislature of a state—the guardianship of that primary branch of industry which is the source of our prosperity and greatness, and our sure dependence in times of public peril and misfortune. Politicians may speculate upon the influence which free institutions, or a partisan administration, may have upon the prosperity of a country; commercial men may extol the advantages of an extended foreign commerce; manufacturers may claim pre-eminence in conferring independence upon their country; and literature may arrogate the exclusive credit of rendering a community enlightened and polished; yet, after all, agriculture constitutes the broad base upon which the whole superstructure of society depends for support. If that languishes, either for want of the protection and patronage of the constituted authorities, or from the inattention and lack of intelligence in its rural population, the government becomes embarrassed, commerce crippled, and manufactures paralyzed. A maritime war may sweep our commerce from the ocean; our manufactures may sink for want of a market for their fabrics, as they have done; but agriculture never disappoints our hopes, while we continue to enjoy the blessings of a kind Providence, whose favor it is alike our duty and our interest to propitiate, by prudent forethought and dutiful submission to all his requirements. The soil, under judicious management, never withholds the tribute of reward to those who humbly devote themselves to its culture, and place upon it their only sure reliance. Upon this, then, we ought to bestow our special attention, our protecting care. These truths have been amply illustrated and established in the experience of the two last years. Your committee are persuaded that the condition of the agriculture of any country affords a safe criterion whereby to judge, not only of its general prosperity, but of the social and moral condition of its population.

The recollections of the age will serve to show, that the relative condition of our agriculture and that of many of the countries of Europe has undergone a remarkable change within the last forty years. While the latter has been increasing, ours has been diminishing in its products. About the commencement of the present century the exportation of bread stuffs and other provisions, from the northern and middle states, amounted, annually, to twelve or fourteen millions of dollars, principally to the continent of Europe. In the two last years, instead of exporting provisions to Europe, as formerly, we have imported from thence bread stuffs to the amount of seven or eight millions of dollars. These facts conclusively show, that the agricultural products of Europe have greatly increased, while ours have been diminishing, in proportion to our population, notwithstanding the vast accession of fertile virgin soil which has been constantly enlarging our borders. Whence this great change but from a neglect, on our part, to nurture this great branch of national industry; and a diligent and constant endeavor, on the part of the governments and people of Europe, to improve it? We have the most ample evidence that the efforts of our cotemporaries on the old continent have been crowned with abundant success. France and Germany have made great advances in agricultural improvement. The once barren sands of Brandenburg, and the no less unproductive heaths of Prussia, are now covered, through the active efforts of the Prussian government, with plentiful harvests of the finest grain in the world. The soil of England has been made to more than double its products within the last sixty years; and Scotland has quadrupled her agricultural products since the termination of our revolutionary war.

While such has been the recent progress of agricultural improvement in Europe, what has been our progress in husbandry? Has it not been retrograde? Have not our cultivated lands been generally deteriorating, under an exhausting system of husbandry? and have not large tracts, once fertile, on the Atlantic border of our country, been absolutely abandoned, as unprofitable for culture, on account of the sterility produced by our bad husbandry?

Under the view of the subject which these facts present, the committee feel it their duty to press upon the consideration of the legislature, who are delegated to take care of the public weal, an investigation into the causes which have led to this great, this alarming change, in the relative condition of the two continents; and to urge them to adopt prompt and efficient means, not to repress the European spirit, which has done so much good to the human family, but to transfuse a portion of that spirit into our own population, and to raise the character of our agri-

culture, as we can and ought to do, to the level of that of any country on the globe. Fortunately, we are not left in doubt as to the prominent means of effecting this desirable object. Other governments have made the experiment for us; have set us the example, and in a measure demonstrated the certainty of success. Those governments have patronized and aided this noble art, by protection and rewards; by instruction, in the primary schools, in the elementary principles of husbandry; by national boards of agriculture; by agricultural surveys, and by schools of scientific and practical instruction in the diseases and management of domestic animals, and in the business of agriculture generally.

The state of Massachusetts was among the first to encourage the establishment of agricultural societies, and to dispense to them the public bounty. Her continuing to persevere in this policy to the present time, by a renewal of the law making an annual and liberal appropriation to this object, is at once an evidence that she has found such expenditure salutary, and in perfect unison with the feelings and wishes of her enlightened population.

The state of Maine has also given an example of great liberality and wisdom, in recent efforts to improve her agriculture. The bounty which she this year pays to her citizens, to encourage the culture of wheat alone, will draw from the treasury a greater sum, than all the expenditures, which the "empire state" has made directly in aid of her agriculture, put together.

Several of the states have likewise, with a view to encourage a useful and lucrative branch of home industry, offered liberal bounties for the cultivation of the mulberry, and the production of silk. A slight reference to the proceedings of the current legislatures of several of our sister states, at this moment, may show the position which our own proud state should assume on this important subject.

A bill is now before the legislature of Massachusetts for giving a bounty to her citizens for the production of wheat.

A bill is in discussion in the legislature of Kentucky to establish a board of agriculture, and state and county societies.

A bill is before the legislature of Maryland to establish and patronize agricultural schools, &c.

A bill is under consideration in the young and enterprising state of Michigan, for the establishment of state and county agricultural societies, with appropriations from the state funds for their support.

And even Wisconsin, that wild, though fertile and rapidly increasing territory of the great west, is engaged in the same laudable work.

Nor do we lack a useful lesson of instruction at home. The law passed in 1819, "to improve the agriculture of this state," did what its title purported; it did improve the agriculture of this state. It improved our farm stock, our farm implements, our farm crops, and modes of culture; and it gave a new impulse to useful enterprise and improvement. And although the manner of its execution was in many cases faulty, as all new experiments are liable to be in the outset; yet it effected a great public good. That law involved a public expenditure of twenty-five or thirty thousand dollars, and no like sum, your committee are induced to believe, has been expended from the state treasury with greater public advantage. Its benefits are now palpable, and are acknowledged by all intelligent men. Indeed, it has been stated, upon no slight grounds, that the expenditure has been more than thrice returned to the treasury, in the form of canal tolls upon the extra products of the soil, which it virtually created.

There is another subject to which the committee deem it proper to call the attention of the legislature. The insect denominated the grain worm, has, for several years, been greatly destructive to the wheat crop in the northern and north-eastern counties of the state. It is progressing south and west, and threatens to cut off, or at least seriously to diminish, the great staple of our soil, and the source of much of our wealth. If the attention of naturalists, and the critical observation of practical farmers, were directed to the character and habits of this insect, by offers of a liberal bounty for the discovery of an efficient preventive of its depredations, it is believed that great public benefit might result from the measure, while it seems certain that no injury could ensue from it.

Your committee believe that in all the arts of productive labor, and particularly in agriculture, it is highly important, to the attainment of excellence, to commence instruction in the primary schools. And as we now have published, in our state, agricultural journals of as high and useful character as are published in the world, and at a price less than one-fourth the cost of an equal quantity of matter in a book form, they consider their introduction into our common schools as occasional class books for our youth, a cheap and efficient means of improving both the mind and the soil.

From the best consideration which the committee have been able to give to the important matters which come within the purview of their duties, they have come to the unanimous conclusion, that the time has arrived, when the public interest, and the popular will alike require the exercise of legislative wisdom, and legislative bounty, to improve the condition of our agriculture; the business, as has been already remarked, which gives employment to the mass of our population, and which is the main source of prosperity to all the other classes of society. The committee, therefore, recommend that, with a view of promoting the desired improvement, a law be enacted to organize a state board of agriculture, and to establish agricultural societies in the several counties of this state; and that an annual expenditure of 25,000 dollars be authorized, for five years, with suitable provisions and under proper restrictions, to improve the agriculture of this state. The committee have prepared a bill in accordance with their

views upon this subject, and have directed their chairman to ask leave to present the same.

AN ACT

TO IMPROVE THE AGRICULTURE OF THIS STATE.

The People of the State of New-York, represented in Senate and Assembly, do enact as follows:

§ 1. That the sum of twenty thousand dollars per annum shall be, and hereby is appropriated, for the term of five years, for the promotion of agriculture and household manufactures, in the several counties of this state, in the manner following, to wit: To the county of Albany five hundred and twenty-one dollars; to the county of Allegany, three hundred and forty-eight dollars; to the county of Broome, one hundred and seventy-four dollars; to the county of Cattaraugus, three hundred and forty-eight dollars; to the county of Cayuga, five hundred and twenty-one dollars; to the county of Chautauque, five hundred and twenty-one dollars; to the county of Chemung, one hundred and seventy-four dollars; to the county of Chenango, five hundred and twenty-one dollars; to the county of Clinton, one hundred and seventy-four dollars; to the county of Columbia, five hundred and twenty-one dollars; to the county of Cortland, three hundred and forty-eight dollars; to the county of Delaware, three hundred and forty-eight dollars; to the county of Dutchess, five hundred and twenty-one dollars; to the county of Erie, five hundred and twenty-one dollars; to the county of Essex, one hundred and seventy-four dollars; to the county of Franklin, one hundred and seventy-four dollars; to the county of Genesee, six hundred and ninety-five dollars; to the county of Greene, three hundred and forty-eight dollars; to the county of Herkimer, three hundred and forty-eight dollars; to the county of Jefferson, five hundred and twenty-one dollars; to the county of Kings, three hundred and forty-eight dollars; to the county of Lewis, one hundred and seventy-four dollars; to the county of Livingston, three hundred and forty-eight dollars; to the county of Madison, five hundred and twenty-one dollars; to the county of Monroe, five hundred and twenty-one dollars; to the county of Montgomery, five hundred and twenty-one dollars; to the county of Niagara, three hundred and forty-eight dollars; to the county of Oneida, six hundred and ninety-five dollars; to the county of Onondaga, six hundred and ninety-five dollars; to the county of Ontario, five hundred and twenty-one dollars; to the county of Orange, five hundred and twenty-one dollars; to the county of Orleans, one hundred and seventy-four dollars; to the county of Oswego, three hundred and forty-eight dollars; to the county of Otsego, five hundred and twenty-one dollars; to the county of Putnam, one hundred and seventy-four dollars; to the county of Queens, one hundred and seventy-four dollars; to the county of Rensselaer, five hundred and twenty-one dollars; to the county of Richmond, one hundred and seventy-four dollars; to the county of Rockland, one hundred and seventy-four dollars; to the county of St. Lawrence, three hundred and forty-eight dollars; to the county of Saratoga, three hundred and forty-eight dollars; to the county of Schenectady, one hundred and seventy-four dollars; to the county of Schoharie, three hundred and forty-eight dollars; to the county of Seneca, one hundred and seventy-four dollars; to the county of Steuben, five hundred and twenty-one dollars; to the county of Suffolk, three hundred and forty-eight dollars; to the county of Sullivan, one hundred and seventy-four dollars; to the county of Tioga, one hundred and seventy-four dollars; to the county of Tompkins, three hundred and forty-eight dollars; to the county of Ulster, three hundred and fifty dollars; to the county of Warren, one hundred and seventy-five dollars; to the county of Washington, three hundred and fifty dollars; to the county of Wayne, three hundred and fifty dollars; to the county of Westchester, three hundred and fifty dollars; to the county of Yates, one hundred and seventy-four dollars.

§ 2. That when an agricultural society shall be formed in any county, or in two contiguous counties, and the members thereof shall annually procure, or raise by voluntary subscription, any sum of money, the president and treasurer shall make and subscribe an affidavit of the facts of the formation of such society, and of their having raised a certain sum, specifying the amount thereof, which affidavit shall be filed with the comptroller of this state, who shall draw his warrant on the treasurer for a sum equal to double the amount of such voluntary subscription, not, however, exceeding the amount to which such county or counties would be entitled, according to the apportionment aforesaid.

§ 3. That the several agricultural societies which shall be formed in this state, during the continuance of this act, shall annually elect such and so many officers as they shall deem proper, all of whom shall be actually engaged in carrying on the business of farming; none of whom, however, shall receive any emolument from his office; and it shall be the duty of such officers annually to regulate and award premiums on such articles, productions and improvements, as they may deem best calculated to promote the agricultural and household manufacturing interests of this state; having especial reference to the net profits which accrue, or are likely to accrue, from the mode of raising the crop or stock, or the fabrication of the article thus offered, with the intention that the reward shall be given for the most economical or profitable mode of competition: Provided always, that no individual shall receive more than two premiums at any anniversary meeting, nor more than one first and one second premium at any subsequent time upon the same animal, and that no person shall receive any premium from an awarding committee of which he is a member thereof: And provided further, that before any premium shall be delivered, the person claiming the same, or to whom the same may be awarded, shall deliver

in writing to the president of the society, as accurate a description of the process in preparing the soil, including the quantity and quality of manure applied, and in raising the crop, or feeding the animal, as may be; and also of the expense and product of the crop, or of increase in value of the animal, with the view of showing accurately the profit of cultivating the crop, or of feeding or fattening the animal.

§ 4. That if an agricultural society shall not be organized in any county, or shall neglect to raise by voluntary subscription, a sum which shall entitle them to the apportionment made to said county by this act, the board of supervisors of said county are hereby empowered, at their pleasure, during the continuance of this act, to raise annually, in the manner the contingent charges of said county are required to be raised, a sum equal to one half the amount hereby appropriated to said county. And whenever the president of said board of supervisors shall certify to the comptroller that such board of supervisors have resolved to raise such sum, it shall be the duty of the comptroller to draw his warrant on the treasurer of the state, in favor of the treasurer of such county, for the sum appropriated for said county by the first section of this act.

§ 5. That it shall be the duty of the supervisors of every such county, to cause all the money so raised and received for agricultural improvement, to be paid and expended at an annual agricultural exhibition, to be held in such county, at such time as they shall appoint, in such manner as shall in their judgment best promote the legitimate object of this act, and subject to all the provisions contained in the third section hereof.

§ 6. That the several presidents of the said societies, and of the boards of supervisors, who shall receive or expend any of the moneys hereby appropriated, shall annually, in the month of December, transmit all such reports or returns as they are required to demand and receive, to the secretary of the state board of agriculture, hereafter named and organized, together with an abstract of their proceedings, exhibiting a detailed account of the expenditure of all the moneys which shall come into their hands under this act, and stating to whom and for what purpose paid, with the vouchers thereof.

§ 7. There shall be organized a state board of agriculture to consist of five members, who shall hold their offices for five years from the second Tuesday of February, one thousand eight hundred and thirty-eight, and shall receive while necessarily employed in the duties enjoined by this act, the same compensation as members of the legislature. They may choose such officers as they may deem necessary, and shall hold quarterly meetings in the city of Albany on the first Tuesdays in February, May, August and November; and may also meet at such other times as may be found expedient to fulfill the duties hereafter enjoined upon them.

§ 8. There shall be assigned for the meetings of the state board of agriculture, and as a museum for models, geological specimens, and agricultural productions, a suitable apartment in the state buildings now erecting; which room and museum shall be kept in order by the secretary, or by some person to be appointed by the board, and shall at all reasonable hours be open and accessible to the public without charge.

§ 9. It shall be the duty of the state board of agriculture to examine all reports and returns made by the presidents of the county agricultural societies, and boards of agriculture; to select, for publication, such of them, and such other essays as they may judge advisable; and shall annually publish a volume, to be distributed in the several counties of this state, by the county agricultural societies, or by the boards of supervisors thereof: And they shall examine, when in session, and determine by practical experiment on the merits of all new farm implements or machinery offered for their examination, and may award discretionary premiums, upon such as may be found truly meritorious and deserving of public patronage, provided the whole amount expended in any one year shall not exceed the sum of one thousand dollars for that purpose; and provided further, that no such premium shall be delivered to the person claiming the same, until he has deposited with the board a model of his implement, machine or improvement.

§ 10. There shall be deposited in the room assigned to the board, a complete set of mineralogical and geological specimens, properly arranged and labelled, from the collections now being made by the geological corps in the public employ; specimens of choice or rare agricultural productions, models of implements, drawings of choice animals, books, and other articles which may be presented to the museum, a registry of all which shall be made by the secretary, and open to the public inspection.

§ 11. The said state board of agriculture shall report annually to the legislature, in the month of January, a statement of their expenditures and of their proceedings during the previous year; and also all matters that they may deem calculated to promote the improvement of agriculture and of household industry.

§ 12. A reward of five hundred dollars shall be and is hereby offered to any person who shall discover and will communicate to the state board of agriculture, for the public benefit, a sure and efficient preventive of the depredations of the insect denominated the Grain Worm; the efficacy of the said preventive to be tested by the said board during at least one year, and satisfactorily confirmed before the said award shall be given; and if the discovery shall prove but a partial remedy of the evil, it is made discretionary with the said board, or a majority of them, to award such part of the sum hereby appropriated as its importance may seem to justify.

§ 13. That the treasurer of the state shall annually pay on the warrant of the comptroller to the said state board of

agriculture, the sum of five thousand dollars, to enable them to pay the aforesaid premium; to purchase and distribute such useful seeds as they may deem proper; to publish an annual volume, and to defray such other necessary expenses to promote the object of this act, as are not otherwise provided for; and the said board shall annually account with the comptroller for the expenditure of this money.

§ 14. That the presidents of the several county societies, or delegates to be chosen by them annually for the purpose, shall be ex-officio members of the New-York State Agricultural Society.

§ 15. The board of agriculture, constituted as aforesaid, shall have the authority in their discretion, to award premiums for the production of extraordinary and valuable crops of grain; beet root, and sugar manufactured from the same; mulberry orchards, and silk manufactured therefrom; or any other agricultural or horticultural productions or household manufactures, which in their view shall by such encouragement add to the productive wealth of the country, not exceeding, however, in amount, the sum of five thousand dollars hereby placed in their hands.

§ 16. The collectors of taxes in the several towns in the state of New-York are hereby required, while collecting the same, to ascertain, as near as may be in their power, the number of bushels of grain of different kinds, of excellent roots, and of hay produced during the current year in their respective towns, and the number of horses, cattle, sheep and swine then in existence, and report such amount to the board of agriculture in the city of Albany, on or before the first day of January in each and every year hereafter. Such report to be directed to "The State Board of Agriculture, Albany."

§ 17. The sum of twenty-five thousand dollars appropriated by this act, shall be taken from the income of the surplus fund deposited with the state of New-York by the United States.

§ 18. The first board of agriculture shall consist of who are hereby appointed for the term of five years aforesaid, and all vacancies that may occur in said board shall be filled by joint ballot of both houses of the legislature at their annual session, to be held by the incumbents for the same period of time.

§ 19. The State board of agriculture shall procure the agricultural periodicals entitled "The Cultivator," and "The Monthly Genesee Farmer," as many copies of each, commencing with the current volumes, as there are common school districts in the state, and shall cause as many copies of each to be addressed to the school commissioners of each town as there shall be school districts in the same; and it shall be the duty of such school commissioners to cause the said papers to be promptly distributed, one copy of each to the several schools, and of the trustees of said school districts to have the same properly taken care of, and to be used as occasional class books in said schools.

§ 20. The comptroller shall, on the requisition of the said board of agriculture, draw his warrant on the treasury of the state for the payment to each of the proprietors of the said agricultural papers for the number of copies so delivered, estimating each of them at fifty cents per copy; such payment to be made from the common school fund.

EXTRACTS.

Agricultural Convention.

At a meeting of the citizens of the county of Onondaga, convened pursuant to public notice at the Mansion House, in Syracuse, for the purpose of adopting measures for the incorporation of a County Agricultural Society, ASA EASTWOOD, Esq., was temporarily called to the Chair, and MILES W. BENNETT, Esq. appointed Secretary. Whereupon it was

Resolved, That a committee of five persons be appointed by the Chair to report officers for the Convention.—The following persons were thereupon appointed said committee, viz: Harvey Baldwin, James L. Voorhees, Doane, H. Moses, and Rufus Cossitt.

The committee reported the following gentlemen as Officers of the Convention, viz: JAMES L. VOORHEES, President; GABRIEL TAPPAN, and ASA EASTWOOD, Vice-Presidents; John B. Brown, and H. N. Howe, Secretaries.

The report of the committee being adopted by the Convention, it was thereupon, on motion of Mr. H. Baldwin,

Resolved, That a committee of five be appointed by the President to draft resolutions expressive of the sense of this Convention on the subject of forming a Board of Agriculture for the county of Onondaga, and also to devise measures for procuring the incorporation of a County Agricultural Society,—whereupon, the President appointed the following gentlemen on said committee, viz: H. Baldwin, B. F. Stone, E. F. Wallace, D. S. Earll, and R. Cossitt.

The committee, after a short recess, reported by their Chairman, Mr. Baldwin, the following resolutions, which were adopted by the Convention, together with the petition also reported by the committee.

Resolved, That we regard agriculture as the first and best pursuit of man, as a science more ancient in its origin, more useful in practice, and more important in its results to the whole human family, than any other art or science, and which therefore commends itself to the attention of every philanthropist and true patriot.

Resolved, That a science so intimately connected with the best interests of society, is entitled to our warmest approbation, and cordial, vigorous, individual, and united support, and that we will henceforth exert every means in our power to improve and elevate its character, disseminate its principles, and extend its blessings.

Resolved, That we regard as among the most efficient means for advancing these great objects, the establishment of State and County Agricultural Societies—the establishment of Agricultural Schools, in conjunction with pattern or experimental farms, and the periodical publication of Agricultural Papers, and that to establish, foster, sustain and protect these, is an imperative duty which every well regulated government owes to itself and to its citizens, and should at all times be regarded as an object of primary and paramount importance.

Resolved, That in view of the immense interests involved in the science of rural economy, as connected with the natural, physical, moral, political and religious wants of man, we, with deep humiliation confess, as well in our individual as in our corporate capacity, that we have hitherto come far short of our duty as men, as citizens, as philanthropists, as patriots, and as christians, and now offer, as the best atonement we can make, a dedication of our time and means to the advancement of this work, so far as it is consistent with other duties and other obligations.

Resolved, That the policy hitherto pursued by this state in refusing to grant pecuniary aid from the surplus revenue, for the promotion of this great object, is, in our opinion, unwise, illiberal and unfair—unwise, because her wealth consists in the wealth of her citizens, and whatever promotes the one, increases the other in the same ratio—illiberal, because the appropriation of that money to this object, was but to return it to hands from which most of it was directly or indirectly drawn, and because if returned it would have been again reinvested in a manner most beneficial to the state and the country—unfair, because the aid was solicited by a class composing seven-eighths of the whole community, and which, as such, has never to any considerable extent partaken of the bounties of the government.

Resolved, That the warmest thanks of this Convention, of this state, and of this nation, are due to those few individuals who have long been toiling with unabated zeal and perseverance in the cause of Agriculture—who have freely devoted to it their time, talents and money, and whose able and well conducted periodical publications have done much, and indeed, have mainly contributed to awaken public interest and inquiry on this all important subject; and in the foremost ranks of whose works, we, with pride and pleasure, recognize "The Genesee Farmer," and "The Cultivator."

Resolved, That a committee be appointed for the purpose of circulating a petition to the present Legislature for the incorporation of a County Agricultural Society, with a capital of \$50,000, with power to increase it to \$100,000, to be divided into shares of \$20 each, and to be employed, or so much thereof as may be necessary, in the purchase of an experimental farm—preparing and stocking the same, and in the establishment, in conjunction therewith, of an Agricultural School, and in such other objects as are calculated to advance the great and permanent interests of the institution.

Resolved, That Victory Birdseye, Azariah Smith, Phares Gould, James R. Lawrence, Samuel L. Edwards, Harvey Baldwin, James L. Voorhees, John Stevens and George Geddes be appointed delegates to represent this county in the next meeting of the State Agricultural Society, to be held in Albany on the first day of February next.

Resolved, That the proceedings of this Convention be signed by the officers thereof, and published in the county and village papers, the Albany Argus, Evening Journal, Gazette and Daily Advertiser, the Cultivator and Genesee Farmer.

To the Honorable the Legislature of the State of New-York, in Senate and Assembly convened:

Your memorialists, inhabitants of the county of Onondaga, beg leave respectfully to represent,

That from the benefits resulting to the farming interests in this county, from the law of 1819, establishing Agricultural Societies, your memorialists are satisfied that all the interest pertaining to rural economy would be largely promoted by the re-enactment of that law, or of some similar law on that subject.

Your memorialists are also satisfied that the cultivation of an experimental farm, and the establishment in connection therewith of an Agricultural School, would also have an important bearing on the same interests, and should be provided for, and protected by the future enactments of the State in relation to that subject.

Your memorialists, therefore, respectfully solicit your Honorable body to pass a general law for the incorporation of County Agricultural Societies, securing the aforesaid objects, or a law for the incorporation of an Agricultural Society of this County, incorporating therein provisions on the above subjects, with a capital of fifty thousand dollars, to be divided into shares of twenty dollars each, and for such other and further enactments and aid in reference to the subject matter, as to your Honorable body shall seem right and proper—all of which is respectfully submitted.

Syracuse, January 29, 1838.

JAMES L. VOORHEES, Pres't.

GABRIEL TAPPAN, } Vice-Pres'ts.

ASA EASTWOOD, }

John C. Brown, } Sec'ys.

H. N. Howe, }

Massachusetts Agricultural Society.

We have great pleasure in announcing some of the Premiums of the Massachusetts Agricultural Society. The society offered two most liberal premiums for the best and second best managed farm, which might be offered, requiring that the entry of these farms for premium should

be made early in October, and that a full account of the whole condition and management should be given in detail. The first premium was 150 dollars, the second 100 dollars. It was hoped that these would have presented a sufficient inducement for many applications. The offer of premiums made by the society, though the trustees took great pains in extending it, did not reach all parts of the State; and in this matter it is to be feared great neglect is to be attributed to some persons in whose hands their prospectus was placed, and by which neglect the liberal and excellent intentions of the society have been in a measure defeated. The conditions were as liberal as they could with any propriety be made; and we have many farms in the state, which might have honorably entered into the competition. Only three claimants appeared, and two of those not having been seasonably entered, the trustees did not consider themselves at liberty to bestow on them either of the premiums; but bestowed liberal gratuities only. The claim seasonably entered was, for reasons detailed in their report, not deemed entitled to either of the premiums; but at the same time deserving of an honorable notice. We shall give the reports in full in our next paper, at this time we announce only the rewards.

To Joshua R. Lawton, of Great Barrington, in Berkshire Co., a gratuity of seventy-five dollars,..... \$75 00

To Joseph Howe, of Methuen, in the county of Essex, a gratuity of fifty dollars,..... \$50 00

To William Buckminster, of Framingham, in the county of Middlesex, a gratuity of fifty dollars, \$50 00

The statements of these several claimants, with their particular accounts of their management and crops will be given, in due season with the report. We presume that these premiums on the management of farms will be continued, and we hope they will excite that attention among our farmers, which they deserve. If the pecuniary value of these rewards is not sufficient to rouse them, yet have they no public spirit? have they no interest in the improvement of that great art, to which they have devoted their lives? and what can more directly contribute to its advancement than an animated and public competition? When we come to present the detailed reports to the public, we shall take occasion to extend our remarks. We have only to add that Mr. Howe, of Methuen, Essex Co., who appears here honored by a liberal gratuity, obtained a premium on his farm, of thirty dollars, from the Essex agricultural society, the current year. This returning home with two medals will, we hope, make his neighbors sufficiently envious to induce them to go and do likewise. If they choose to say, as we know they will say, there is nothing in Mr. Howe's farming which any body cannot do, we only say then in reply, let any body do it. That is the very thing we desire.

We subjoin the report of the committee on vegetable and grain crops.

The committee of the trustees of the Massachusetts agricultural society, on vegetable and grain crops, respectfully submit the following report.

Premiums they recommend as follows—

To Eldad Post, of Lenox, for the largest quantity of Spring Wheat, being 40 bushels to the acre,..... \$20 00

To Maxwell Lowry, of Marshfield, for his crop of carrots on an acre, being the only claim for that article, 472 32-56 bushels,..... \$30 00

To S. D. Colt, and Robert Colt, of Pittsfield, for the greatest quantity of vegetables for home consumption and not for sale,..... \$30 00

Also for the greatest quantity of Ruta Baga, being 1,080 bushels on 1 acre and 2 rods,..... \$30 00

The following claim was sent in too late to be admitted according to an indispensable rule of the trustees, but as the crop was uncommonly good, the committee recommend half the amount of the premium as a gratuity.

To Peleg S. Gardner, of Somerset, for his crop of Rye, on one acre, being 35 1-2 bushels,.... \$10 00

The committee notice with pleasure the following claims which, though not entitled to premiums deserve to be mentioned, as evidence of the increasing attention of our agriculturists to the raising of wheat, and as showing the practicability of growing to advantage this essential article of bread stuff, in Massachusetts.

Payson Williams, of Fitchburg, had to the acre of wheat,..... 38 1-2 bush.

Jos. S. Leland, of Sherburne,..... 32 14-32 "

Frederick Knight, of Newbury,..... 32 14-32 "

All these were Spring Wheat.

Mr. Benj. Cleveland, of Somerset, had 79 1-2 bushels of oats. No premium was offered on oats.

Mr. Peleg S. Gardner, had 40 1-2 bushels of barley on one acre. The quantity required was 45 bushels.

(Signed,) P. C. BROOKS,

Chairman.

The crops of wheat rewarded and noticed are excellent. Samples of some of them have been sent here; and present a beautiful grain. These are most important results, in various points of view. It is desirable that we should understand our capacity of raising our own bread. For some years past we have been rather too much engaged in making pictures, beautiful engravings on silk paper; and have been as much pleased with them as if we were all children. It would be well, if a large part of our population would go to producing something else, apply their ingenuity and industry to something more substantial, and see if they cannot induce the earth to make liberal dividends upon fair investments of manure and labor. The above results show what she can be made, or to speak more gratefully, what she is willing to do; or rather what she can be persuaded to do; and where shall we find any

better investment than that which returns sometimes thirty, sometimes sixty, often a hundred fold for one.

The crops from Somerset are the effects of liberal manuring with fish. The effects of this manure, which is well known on many of the maritime parts of our state, are very powerful. But the farmers complain that it is soon over; so is every thing else in human life soon over. I think, said a person to President Daggett of Yale College, on his introduction to him, you are President *pro tempore*—yes said he with some tartness of reply, would you have me President *pro eternitate*?—Every thing with us is for a time. Use it for that time and be thankful that it does well; but do not complain that its effects do not last forever. They were not meant to last forever. The pretence, that it impoverishes the land, is idle; and amounts to this, that the land will not produce so much without the manure as it did with it. The complaints of its being so transient, when its liberal returns are admitted whenever it is applied, are the complaints of selfishness and indolence.

The crop of carrots upon which a premium has been awarded is only an ordinary one; and we think the Board must have stretched their liberality as wide as the mantle of christian charity to have honored it as they have done. We presume however that they were bound by their rules, this being the only claimant. At any rate, we have no doubt they judged uprightly and well. It will, or it ought to make some men ashamed of their own neglect. We know several who have raised their six hundred, and eight hundred bushels of carrots to the acre, and we know some who have grown a thousand, who will say on reading this award, "Well I might have got that premium, if I had tried." Why did you not try then? Try next time, and try until you do get it; and then keep a trying, until you get it for a larger crop than was ever raised before. This is what farmers ought to do; and not be laying down in despair at the foot of every small hill, which they come to, which are often not higher than a tall man can look over, and crying out in despair, ah! I never can get over. Move on, Mr. Faintheart! Wake up, wake up! you sluggard!

Mr. Payson Williams, of Fitchburg, one of the most successful farmers in Massachusetts, who knocks every year at the door of the Massachusetts society, and whom they are obliged to admit because he shows his sufficient warrant to come in and take the best they have, has we believe been formerly honored with a premium for raising 55 bushels of Black Sea wheat on an acre. We have known in Massachusetts two hundred bushels of wheat gathered from four acres; and seventy bushels of rye grown on an acre; and ninety bushels of oats. What may not industry and skill effect. Barley is a crop, which ought to be much more cultivated than it is. The insect, which for some time, made fatal depredations upon it, has disappeared in a great measure. It was brought to this country in some importations of barley from Holland, made some years since by a large brewer in Newburyport.—The farmers for two or three years in that vicinity gave up the cultivation of barley, as they were advised and indeed obliged to do, and it became extinct. It ordinarily, to good cultivation, yields well. It does not mind a cold season, and for fattening swine, when intermixed with other feed, it is probably as good, pound for pound, as any other grain.

Caleb Kirk on Hedging.

Having preferred plashing to any other mode that I had seen made use of in training a hedge, I began the process when the stalks were about an inch in diameter near the root, and from that to an inch and a half; if well attended to in their previous growth, they will attain that size in six or seven years after they are planted, but if neglected they may require double that period. It may be observed that no advantage is gained by plashing before a good root is formed, for that is the future support and basis of the superstructure; by having a good strong root, the cutting or wounding the top or body of the stalk will soon recover any injury received in the necessary work of plashing, which is done by cutting the body of each stalk with a hedge knife or pruning hook, bending the stalk with one hand, in the direction it is to be laid, at same time by a stroke of the knife by the other, about four inches from the surface of the ground; if one stroke should not prove sufficient, a second or third may be applied, being careful to leave as much of the wood uncut as to afford the sap to flow into the top, and yet to bend easy into an inclined position of about forty-five degrees elevation from the base or bank on which it stands; one-third or one-fourth of uncut wood is sufficient to supply sap to the plashing, which must bend easy, otherwise it would incline to rise out of the proper degree of inclination. Much depends on this circumstance in forming a good and uniform hedge—the plashings should not press one upon another so much as to prevent a free and unobstructed circulation of air and the sun's rays also, as the health and vigor of the plashing is much promoted thereby. If there should be more wood in the hedge, by planting too close or any other cause, it must be cut away, leaving no more than what is really necessary to form the basis of a good and lasting live fence. One of my errors was, suffering too much brush wood to be crowded into my first live hedges, both living and dead—brush wood, such as was cut away, in some places where too thick, and filled in where too thin; in order to make a *present* fence I was induced to suffer it done in this way, from the recommendation of my hedger, who was from the west of England, and had been in that practice; for the immediate making a fence of such materials as he had to do with, I readily gave his judgment the preference, he having had experience in the business. But my observations in two or three years more, convinced me of the impropriety of introducing dead wood to

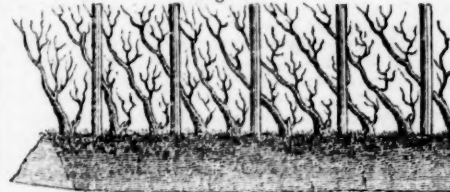
fill every vacancy, as well as crowding too much of that which was living. I had much of it to remove in places where a want of health demonstrated the present evil. After this was done, the remaining part became more healthy, but remains thin, and never will overcome the injury. There seems to be no inclination to put out shoots from the old wood in those vacancies—which would have put forth shoots when newly laid, if no obstruction had been present.

I find it is best to trim off the branches, especially the large ones, though not very close to the body of the stalk. It shoots young sprouts more abundantly from the plashing, which rise in an upright form, as well as those from the stumps shooting up through the plashing; interlocks the whole together, holding the plashing in their place as cross bars, and forms a kind of lattice work. On the contrary, if the plashing is too crowded, the shoots rising from the stump will evade the thicket and push out in a lateral direction, endeavoring to gain the benefit of sun and air, and rise on the outside, where they are injurious instead of beneficial; by secluding the plashing from the benefit of sun and air, the sap no longer inclines to the plashing, but flows freely into the suckers on the outside.

I have been more particular on this point, having seen errors in others, as well as my own, on that head.

Previous to laying a hedge, a quantity of stakes are to be provided about four feet and a half long, if it stands on a bank, or a little longer if the ground is not elevated, and split as small as they will bear to drive about one foot in the ground; they are to be driven through the plashing occasionally, as the work progresses, in a straight line two feet and a half, or three feet distant from each other, as seen in figure 18; those stakes are driven through the plash-

Fig. 18.



ing, so as to keep the part laid directly over the stumps, for reasons before given, (the shoots raising immediately through the plash); these stakes are bound in their place by wattles or poles, prepared of alder or willow, or any thing that will not in future make useful timber, as their use is only temporary, until the hedge becomes set by growth.

This binding has the appearance of a twisted rope; if rightly done it steadies the head of the stakes, and keeps them in a direct line, and serves the purpose of holding straggling shoots, that may be directed under its confinement, and confines the top of the hedge, holding it steady for trimming until its own growth gives it stability.

The next year after being laid it should be examined, and any shoot that inclines to leave the right direction should be cut away, unless there is a vacant spot to receive it; then it ought to be introduced into such vacuum; by frequently trimming the superfluous branches off, the body becomes more dense and impenetrable.

About five years past, I adopted the summer trimming about the middle of June, and found it much easier to accomplish while the shoot was in a tender state, and have regularly done the trimming in that and the following month ever since, finding the labor much easier performed, and no bad effect on the hedges, though warned by some to the contrary, apprehending bad consequences to arise from cutting at that season.

The present season having been excessively dry and warm, yet I have not discovered the least injury—though they have held their foliage as well as usual.

My conclusion has been, that by cutting when the sap is in full flow, and taking away the small shoots that were carrying off a considerable portion for their support, that portion must diffuse and spread through the whole body of the hedge, and add strength to every remaining part.

The foregoing remarks will apply to either kind of thorn as it regards the treatment of them, but the Virginia kind has advantages, though not so rugged in appearance, as the Delaware—they are more uniform in their growth, and give that regularity and uniformity to the hedge. But what is very important, is their inclination to send out an abundance of shoots or suckers, when cut not only from the stump, but from the plash also; the latter is not the case in the Delaware thorn; they seldom afford shoots out of the plash; except where the top end is cut off, the suckers will rise.

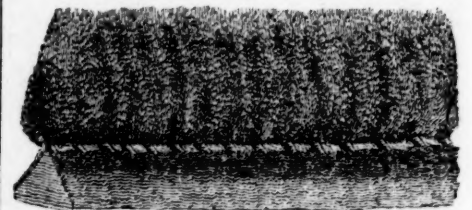
To attain a regular distribution of shoots from the plashing, we must be mindful to give every stalk laid a proper degree of slope or inclined plane, as before observed; by that means they are likely to rise on the body of the plash; if too much elevated the sap flows to the head, and produces a cluster at that point; and if laid too much in a horizontal position, the sap is not encouraged to follow that direction, and will produce suckers from the stump only, leaving the plash without sufficient nourishment to become useful, and must consequently decline.

It will be readily understood, that the more general we can direct the flow of sap through the whole body of the hedge, the strength and uniformity is thereby promoted, becoming healthy in all its parts. After that object is obtained, all that is necessary, is the keeping it in proper limits by trimming.

The drawing represented by figure 19, is a view of a section of newly plashed hedge, divested of foliage, after having formed the first shoots from the old stalks, making

the first effort to fill the vacancies, and seven years old before it was cut. The figure 19, represents a section of

Fig. 19.



one that has been laid seven years, and annually trimmed, being in full foliage at the time the drawing was taken.

The former showing the skeleton of a hedge, that may be useful to demonstrate the subject in that stage of its progress to maturity. Figure 20, represent an end view of section 19, showing a correct view of the shape, which I preferred for the forming a hedge the most impenetrable at the bottom; those views are elevated on a bank from a foot to eighteen inches high, which was formed from repeated dressing, as they required fresh earth to cover the grass about the roots, which retards their growth in a young state remarkably, if not kept down. This elevation gives the hedge a much more forbidding appearance to un-
vernable animals.

The trimming may be done with a hedge knife, about eighteen inches long, with a hooked point, used with one hand, or with any other sharp light tool that may best suit the operator, making the stroke upwards rather than downwards; the root being secure in the ground it will not give way before the stroke, as it would in making the stroke downwards. The last trimmings made on those specimens, were done with a common grass scythe, as the mowers were cutting the grass inclosed in the field. I found by applying the scythe to the hedge it was an expeditious mode, though rather unhandy to strike upwards, but a little practice overcame the difficulty.

After viewing those specimens of hedges produced by the foregoing mode of management and in a given time, it will be information to some, I have no doubt, sufficient to determine their choice, whether a dead or living fence is to be preferred.

I made the choice upon an imaginary view, without having advantage of ocular demonstration, and without any idea of the comparative expense, or even attempting to make any calculation on the subject, as I had made up my determination preferring a live fence.

There is now some data to form an estimate upon; and the subject is of such a nature as to require a series of years to gain the desired object; yet I have a confidence in believing it can be ascertained with much correctness.

The last number on this subject being more fully demonstrated by a drawing, not only to assist the young husbandman in the best mode of forming his live fences, but to give a view, of what may be considered a specimen of a *finished* hedge, or one that has attained maturity, being thirteen years old from the time of planting, and needs no further care but that of *annual* trimmings, shearing or clipping the extra shoots, that incline to enlarge it beyond proper limits. The mode has been heretofore treated of.

It now becomes the next inquiry *what is the cost* of obtaining such a desirable inclosure, to protect and secure the labors of the farmer, and, at the same time, ornament his farm. The following is a correct estimate, as near as the nature of the case will admit, calculated for the latitude or neighborhood of the writer of these notes, being done from actual experiments, made by himself, and some of his neighboring farmers pursuing the same plan of hedging; taking a given quantity or distance, say one hundred pannels of post and rail fence, measuring ten feet to the pannel, which is the usual length, makes *sixty perches* and ten feet over.

One thousand quicks will plant that distance, cost from nursery, \$5 00
Planting them by a man and boy each two days, man's wages and board at 75 cts. 1 50
boy's do. 50 cts. 1 00
One dressing the first year by running a furrow or two with the plough, 25
And then a light dressing with the hoe, (same hand) 75

Expense of first year, 8 50
2d. year dressing as above, \$1 00
3d. year do. 1 00
4th. year do. 1 00
5th. year do. 1 00
6th. year do. 1 00
5 years dressing, \$5 00
7th. year trenching to prepare for plashing, plough and horse, \$0 50
And three days' work, at 75 cts. throwing up a ditch, 2 25
500 stakes, counting labor as above, including timber, 3 50
Wattles and cutting them, 2 00
One hand three days at plashing, at \$1* 3 00
Expense of 7th year, 11 25

* The wages of a hand to plash is at \$1, being an artist at the business. but that will, when generally in practice, be done by common laborers as readily as any other labor on a farm, with a little attention of the owner.

8th. year 1 day's work trimming and cleaning,	\$0 75
9th. do.	75
10th. do.	75
11th. do.	75
12th. do.	75
13th. do.	75
Expense of six years,	\$4 50

\$29 25

The foregoing process has produced such a hedge as is exhibited in the drawing, taken from a section of one thirteen years old, now in good condition and improving, becoming more dense every year; and, so far as I am able to form a judgment, I am of the opinion, that seventy-five cents annually applied to the trimming, will keep it in that form perpetually, not being yet able to discover any thing to form an idea of dissolution upon, in any reasonable time, therefore sufficient to ground a confidence of durability.

The calculation on this section of sixty perches, will afford data to apply to any quantity of greater extension; and the annual expense on this, after the seventh year, is uniform, and may be considered to continue so, for as long a time as they are regularly attended to, which will apply to any extent, at one cent and a quarter per rod or perch of sixteen and a half feet.

If the writer of these observations had commenced hedging with the knowledge now obtained by experience, one-half his labor would have been saved.

The expense of a fence made of timber, say post and rail, which is the most common in the vicinity of this place, is seventy-five cents for each panel of a four rail fence, to those who have their fencing to purchase and the labor to pay; that is, seventy-five dollars for one hundred panels, that, compared with the same length of hedging, places the case, for a perishable material, with thirteen years of the time gone,

\$75 00

And for a hedge growing better every year,

\$29 50

Leaving,

\$45 50

as a balance in favor of sixty perches and ten feet distance; what that will amount to on a large farm, I shall leave to the owner's calculation.

I may further remark, the labor of making live fence can be done by weak hands, if rightly directed; my plashing was done by a man seventy-four years of age. The making of rails and handling them requires a person in the prime of life, and it is laborious in every stage of the process of erecting wooden fences; besides the destruction of much valuable timber, which, in some neighborhoods, is a heavy tax on the owner.

Each neighborhood may make their calculations of fences made of timber; according to circumstances attending the hedge, calculation may be relied on, if the rules and remarks foregoing are strictly attended to, and will apply to either kind of thorn; but it was the "Virginia parsley leaved thorn," of Marshall's catalogue of forest trees, that was preferred, and which grows spontaneous, from this place to the south as far as the Mississippi; and I have no doubt of it thriving in a northern latitude, seeing no bad effect from the winters of our Delaware climate, although I had a section plashed in the midst of winter to prove the consequence.

The hedge may be considered as made in seven years from time of planting, as it is only trimming, that is required afterwards; which amounts to one cent and a quarter for each perch of distance; the quarter may be thrown off, if the clipping is never omitted in due time, as it lessens the labor; a rule that will apply through every operation in husbandry, and should never be forgot, while twenty-five per cent is saved, often fifty.

Broad-tailed Sheep.

[From Livingston's Treatise on Sheep.]

"The race of sheep that I shall next notice, is one that is more extensively diffused than any other, since it is found throughout Asia and a great part of Africa, as well as through the north-eastern parts of Europe. I refer to the broad-tailed sheep. (*Ovis aries lat-caudata*). These differ as the ordinary European race in the nature of their covering. In Madagascar, and some other hot climates, they are hairy, at the Cape of Good-Hope they are covered with coarse harsh wool; in the Levant their wool is extremely fine, or in other words, they are adapted to the necessities of the people by whom they have been changed from their wild to their domestic state. These sheep are generally larger than those of Europe, in which circumstance only, and the form and size of their tails, they differ from them. The broad-tailed sheep are of three species. In the one the tail is not only broad, but long, and so weighty, that the shepherds are compelled to place two little wheels under it, to enable the sheep to drag it. These tails are said sometimes to weigh from forty to fifty pounds. Another species have the tail broad and flat, but not very long, covered with wool above, but smooth below, and divided by a furrow into two lobes of flesh; these are also said to weigh above thirty pounds; I should not however estimate the weight of those which I saw in the Menagerie at Paris, at more than ten or twelve pounds. In some species a small thin tail projects from the centre of this fleshy excrescence. The composition of this excrescence is said to be a mixture of flesh with a great proportion of fat, and to be a very delicate food; but the animal has little other fat, the tail being in him the repository of that fat which lays about the loins of other sheep. In cold climates the fat of the tails resembles suet; but in warm ones, as at the Cape of Good Hope, Madagascar &c. it is so soft that when melted it will not harden again. The inhabitants mix it with tallow in certain proportions,

when it assumes the consistency of hog's lard, and is then eaten like butter, or used for culinary purposes. Naturalists imagine that this excrescence is owing to some circumstances in the food of the sheep, which makes the fat fall down from the loin into the tail and thus occasion this monstrosity. I do not, however, think this probable, since the prodigious extent of country through which this race is propagated, must render the food its various as the climates in which they are bred. I rather think it owes its origin to the art of man, grounded on some of those sports of nature, which in all domestic animals, afford a basis whereon to engraft his whims.

It may be asked to what end would man cultivate this deformity, and that, too, through so extensive a region as to forbid our attributing it to whim or fashion? may not the shepherd who first observed this *Lusus Nature* in his flock have concluded, that he had made a very valuable acquisition, since he not only had a sheep that gave him as much wool, milk or flesh as the rest of his flock, but a tail, which, in addition, gave him a comfortable meal, or what is still more valuable among savages, plenty of grease for his toilet and his kitchen. This circumstance alone would make him attentive to cherish and propagate the deformity; and the rather as he must soon have found that it was attended with another important advantage; the sheep being more unwieldy, would be less apt to stray or return to its savage state; an object of considerable importance in the early state of society."

Rohan Potato.

[From the Gardener's Journal.]

We have had occasion to mention this potato in a manner to draw public curiosity strongly towards it. We subjoin, therefore, the account given of it in the Edinburgh Quarterly Journal of Agriculture. Some of these potatoes have been raised by Mr. Thompson, of Catskill, and by Judge Buel, of Albany, who received some tubers through the kindness of Mr. Thompson. The circumstances under which they have been cultivated here, were not altogether favorable; and the yield not so great as represented in the Journal from which we quote, but sufficiently remarkable to indulge sanguine expectations of their extraordinary productiveness. Their value for eating has not been ascertained. Their value for stock is undoubted. The Agricultural Commissioner was able, through the politeness of Judge Buel, to obtain a few plants; and others by purchase, which he will take care to distribute among those who will give them a fair trial. We learn that Messrs. Breck & Co. have the promise of a small quantity for sale, from Catskill, which may be expected as soon as the season will admit of their transportation.

The *Rohan Potato*, a new variety.—The following is an extract from a letter written from Geneva, of date 25th April, 1834, by Prince Charles de Rohan to M. Jacquemont-Bonnefont, Nurseryman, Annancy, in the Ardeche.

"I send you, through my friend M. Romilly, the potato which I promised you; and to which my name has been given in this country. The history of this potato is not less singular than the potato itself. He who obtained it from seed four years ago shews it, but will not give it to any person; he has refused it to King William. He has cultivated it in a little walled inclosure: he only wishes to see it in perfection, and the seed of the following year. He makes them to be taken up in his presence; keeps them under lock and key, and to be cooked for himself and cattle before his face. It is at great risk that I have been able to procure two tubers. This exclusive amateur having learnt that I had got some cactuses, which he wished much to have, begged me to give him some. I wished no money, but very much to have some of his wonderful potato. He gave me two of them, and made me give my word of honor that I would never send any of them to Holland, Belgium, England, Prussia, or Germany. Happily he has not thought of Switzerland nor France; for without this omission, I could not have had the pleasure of offering these to you.

"This is the mode of cultivating this potato: The earth is dug to the depth of twenty inches; make the distance between the holes four feet, and put two or three eyes, or sets, in each hole. Earth up frequently. The stalks, reaching six or seven feet in height, must be supported on transverse stakes. The kind being late, the tubers, which are very farinaceous, should only be taken up about Martinmas, when the stalks wither.

"To give you an idea of the extraordinary produce of this potato, I give three examples at random. M. E. Martail, at Alias, gathered last autumn tubers weighing 13 lbs. 7 oz., 11 lbs. 9 oz., and 9 lbs. 13 oz. M. de Montet, a proprietor near me, asked me for tubers when I could not give him more than a single small tuber having four eyes. He weighed it for curiosity, and found that it wanted a few grains to make half an ounce. However, this small tuber being planted, produced 48 1-4 lbs. The Attorney of the Abbey of Auterive, canton of Fribourg, to whom I had given two tubers two years ago, and who, delighted with his first harvest, after having eaten and given some to his friends, planted the rest, and obtained last autumn six double-horse loads and eight scuttle-fuls. It is not the largest tubers which succeed best as seed."—*Le Cultivateur, Journal des Progres Agricoles.*

Orchard Grass;

its value, and advantages over Timothy or Clover. Remarks on its culture, and seed. *Poa viridis*, or *Green Grass*.

Sow Orchard Grass; if in autumn, harrow it in with your winter grain. Some prefer sowing it in the spring. Much depends on the soil and season, and you can try both modes and periods, to enable you to form the best

opinion. This grass will be permanent, when clover (with which it is a profitable companion,) fails. It is, on uplands, preferable to timothy, which is a great exhauster—yields but one crop of hay, and little or no pasture, on dry soils, thus leaving the field bare of cover, and exposing it to the exhaustion of the sun and winds; whilst orchard grass, by its quick and repeated growths, affords a ceaseless cover and defence.

By thus recommending *Dactylis glomerata*, for permanent pasture and hay, it is not intended to cast the least reflection on the clover culture. This is now so commonly practised, and its uses so generally acknowledged, that it is unnecessary to dwell on its excellent properties. But the clover is fugacious, (short lived,) and the orchard grass, sown with it, endures in uninterrupted vigor and usefulness; when clover, in dry seasons particularly, is burned or shrivelled, or has entirely departed, having lived out its short period of existence; or having been prematurely destroyed by frosts, to which it is often a victim. The clover and plaster are so congenial, and the improvement of the soils suitable for them so universally known, that any detailed notices of them would now be superfluous.

Raise your orchard grass seed, and do not spare it on your fields. Thin sowing throws up tufts, detached and coarse. You buy, in the shops, much chaff, and little seed; insomuch that a bushel weighs only from fourteen to sixteen pounds, at best, and some much less, barely sufficient for an acre. It should be sold by weight, and not by measure. No grass seed can be raised more plentifully and cheaply; and yet the expense of purchasing, has deterred its more general use.

It will be difficult to keep an old weedy farm long in grass; and the plough must, therefore, be oftener used than a clean farm requires. Yet with composts, as top-dressings, and destruction of weeds, wonders may be performed in a grazing system. But when the old sod is broken up, time, as well as good husbandry, with proper courses of crops, must be afforded. No winter grain should be sown the first season of breaking up old grass lays. The stirring and culture of that and the ensuing year, are necessary to insure the complete destruction of weeds and other unprofitable vegetation.

If you should be so fortunate as to conquer weeds and peats, and obtain a clean cover of the *poa viridis*, or green grass, which will not grow unmixed in all soils; it is not to be told how long your fields, with top-dressings, will continue without being disturbed by the plough, if scarified, when surface-bound, by a proper instrument. This grass appears to be native, though not peculiar, to this country; and it must, according to general experience, grow spontaneously.

Plants spring up in soils in which they are indigenous, without previous seeding. The experiment of cleaning by tilling, and meliorating by manure, worn out lands, and suffering them to throw up grasses spontaneously, has decisively succeeded, so as to insure valuable crops of the appropriate kinds; which finally established themselves, after contending with intruders for a time. *White clover* seems most universally native; but this grows better in some, than in other soils.

Those who do not attend to the laws of nature in this regard, suppose that they can, with plenty of manure, force plants in any soil; but this is a great mistake. Gorging land with dung, for any product, is expensively ruinous. There is no surer mode of first deteriorating and finally destroying, any plant out of its natural soil, than that of lavishly dunging it. And this misplaced extravagance, is injurious to plants, either of rich or poor soils. The latter are, however, the soonest killed by high dunging.—*Judge Peters.*

Agricultural Chemistry.

[From the American Farmer.]

The great Linnaeus, has almost given animal life to vegetables, by his wonderful system of classification, and the eccentric Darwin, would fan give them passions like human nature; but it has been reserved for modern chemistry to discover, that vegetables possess a most refined taste, a wonderful discrimination in the selection, and the most active chemical powers in the preparation of their food. It is in vain to search for any single article as the "food of plants;" their tastes are as various as the taste of man; they invariably seek for those things which they like best; and if they cannot find them, they will take what they can get. Indian Corn in the vegetable kingdom, is like swine in the animal; it feeds indiscriminately and voraciously on all the food it can procure, and its growth and product is in proportion; while the more delicate mint is satisfied with water alone, from which it extracts its small portion of food. The seed of a vegetable may be considered the magazine or granary in which is contained the germ of the future plant, and a requisite supply of food to support it. In establishing itself in the earth, the germ in many comparatively large seeds, is so small, as to escape the power of the naked eye. What then is the vision of man, when compared with that power which creates in an invisible seed, an embryo plant, perfect in all its parts, perhaps an hundred times smaller than the seed itself? The grain preserves and defends the germ from injury until placed in its proper sphere of action. The earth then furnishes food to it, by its power of absorption, which it naturally exacts as soon as it comes in contact with moisture. When it has taken in a sufficient quantity of water, the germ commences its operations by decomposing a part and appropriating to itself the oxygen, it gains strength and bursts its cell—it now finds itself in presence of earth and air.* It puts forth its fibrous roots in quest of more sub-

* It is usual to confine the presence of the air to the earth, but tillage extends it beneath the surface from one to twelve

stantial food among the mineral and saline solutions in the earth, and separates, with unerring fidelity, those which are required for the formation of the plant. In the mean time its head rises towards the heavens, and bursts the surface of the earth; the voluntary expansion of its leaves, seems to offer praise to its Creator; the sun stamps upon it his brilliant colors, and gives the flower its beauty; by its heat, the plant prepares its oils, gums and balsams; and in return, gives to the light its oxygen, (which, for aught we know, may be the support of the sun.) The winds agitate the plant, and often threaten to carry away the beautiful superstructure; while its motions indicate to the root below, that it is in danger. The elder roots grasp with firmer strength the earth, and send forth an increased number of fibres, which collect materials and increase the growth of the plant. These operations go on until the fruit is produced, when the plant resigns itself to indolence, and delivers to the hand of man the result of its labors. Some are permitted to resume their action after delivering to the earth their fruit and leaves; but the greater number sink to the earth and furnish subsistence for the growth of some future plants. This is the unvaried round of matter, it lives, and dies to fill some other life.

Good yield of Corn.

[From the Genesee Farmer.]

MR. TUCKER.—The subscriber has raised 292 bushels of ears of corn from two acres, or 73 bushels of sound shelled corn per acre, of the Dutton corn, which I obtained from Judge Buel, Albany, a year ago last May. Process of tillage as follows: The land was gravelly loam, clover sod, mowed three years previous; ploughed once in April, rolled lengthways of the furrows and dragged the same way; planted the 4th day of May, three feet each way, with four spears in the hill; the seed rolled in plaster; ploughed and hoed three times, the ordinary way; plastered twice, one bushel to the acre, after the first and second hoeing. Cut up and stocked the 15th of September. It was ripe enough to cut up the 1st of September. I harvested it the last of October. If you think the above worthy a place in your paper, it is at your service.

N. B. One ear of the corn had twenty rows on it; sixteen had fifty-five kernels each, which made 880; the other four had twenty-seven each, which made 108; total, 988 kernels. Beat that! D. SUNDERLIN.

Yates county, Dec. 1837.

Young Men's Department.

Natural Philosophy.

VI. ELECTRICITY.—This name has been given to a science which explains and illustrates the operations of a very subtle fluid called the electric fluid, which appears to pervade every part of nature, and to be one of the chief agents employed in producing many of the phenomena of the material world. If a piece of amber, sealing wax, or sulphur, be rubbed with a piece of flannel, it will acquire the power of attracting small bits of paper, feathers, or other light substances. If a tube of glass, two or three feet in length, and an inch or two in diameter, be rubbed pretty hard, in a dark room, with a piece of dry woollen cloth, besides attracting light substances, it will emit flashes of fire, attended with a crackling noise. This luminous matter is called electricity, or the electric fluid. If a large globe or cylinder of glass, be turned rapidly round, and made to rub against a cushion, streams, and large sparks of bluish flame will be elicited, which will fly round the glass, attract light bodies, and produce a pungent sensation if the hand be held upon it. This glass, with all its requisite apparatus, is called an electric machine.—It is found, that this fluid will pass along some bodies, and not along others. The bodies over which it passes freely are water, and most other fluids, except oil, and the aerial fluids; iron, copper lead, and in general all the metals, semi-metals, and metallic ores; which are, therefore, called conductors of electricity. But it will not pass over glass, rosin, wax, sulphur, silk, baked woods, or dry woollen substances; nor through air, except by force, in sparks, to short distances. These bodies, are, therefore, called non-conductors.

The following facts, among others, have been ascertained respecting this wonderful agent:—That all bodies with which we are acquainted, possess a greater or less share of this fluid—that the quantity usually belonging to any body produces no sensible effects; but when any surface becomes possessed of more or less than its natural share, it exhibits certain appearances, in the form of light, sound, attraction, or repulsion, which are ascribed to the power called electric—that there are two different species of the electric fluid, or, at least, two different modifications of the same general principle, termed positive, and negative electricity—that positive and negative electricity always accompany each other; for if a substance acquire the one, the body with which it is rubbed acquires the other—that it moves with amazing rapidity; having been transmitted through wire of several miles in length, without taking up any sensible space of time; and, therefore, it is not improbable, that were an insulated conducting substance extended from one continent to another, it might be made to fly to the remotest regions of the earth in a few seconds of time—that it has a power of suddenly contracting the muscles of animals, or of giving a shock to the animal frame—that this shock may be communicated, at the same instant, to a hundred persons, or to an indefinite number who form a circle, by joining their hands together—that it may be accumulated to such a degree as to kill the largest animals—that vivid sparks of this fluid, hence the difference in the same earth, cultivated and uncultivated; the presence of the atmosphere being requisite for vegetation as soon as the germ bursts the seed.

fluid, attended with a crackling noise, may be drawn from different parts of the human body, when the person is insulated, or stands upon a stool supported by glass feet—that electricity sets fire to gun-powder, spirits of wine, and other inflammable substances—that it melts iron wire, and destroys the polarity of the magnetic needle—that it augments the natural evaporation of fluids, promotes the vegetation of plants, and increases the insensible perspiration of animals; and can be drawn from the clouds by means of electric kites, and other elevated conductors.—By means of the electric power, small models of machinery have been set in action: orreries to represent the movements of the planets, have been put in motion; and small bells have been set a ringing for a length of time; and, in consequence of the knowledge we have acquired of the mode of its operation in the system of nature, the lightnings of heaven have been arrested in their course, and constrained to descend to the earth, without producing any injurious effects.

From these, and a variety of other facts and experiments, it is now fully ascertained, that lightning and electricity are identical; and that it is the prime agent in producing the awful phenomena of a thunder storm; the lightning being the rapid motion of vast masses of electric matter, and thunder the noise, with its echoes, produced by the rapid motion of the lightning through the atmosphere. There can be little doubt that, in combination with steam, the gases, and other agents, it also produces many of the terrific phenomena of earthquakes, volcanoes, whirlwinds, water spouts, and hurricanes, and the sublime corruscation of the aurora borealis. In the operations of this powerful fluid we behold a striking display of the sovereignty, and majestic agency of God. In directing its agencies, "his way is in the whirlwind and in the storm, and the clouds are the dust of his feet; the heavens are covered with sackcloth, the mountains quake before him, the hills melt, the earth is burned at his presence, the rocks are thrown down by him;" Neh. 1. 3-6. It is easy to conceive, that, by a few slight modifications produced by the hand of Omnipotence, this powerful fluid might become the agent of producing either the most awful and tremendous, or the most glorious and transporting scenes, over every region of our globe. As it now operates, it is calculated to inspire us rather with awe and terror than with admiration and joy; and to lead our thoughts to a consideration of the state of man as a depraved intelligence, and a rebel against his maker.

VII. GALVANISM is intimately connected with electricity, though it is generally considered as a branch of chemistry. It is only another mode of exciting electrical action. In electricity the effects are produced chiefly by mechanical action; but the effects of Galvanism are produced by the chemical action of bodies upon each other. If we take a piece of zinc, and place it under the tongue, and lay a piece of silver, as big as a half crown, above it; by bringing the outer edges of these pieces in contact, we shall immediately experience a peculiar and disagreeable taste, like that of copper. The same thing may be noticed with a guinea and a piece of charcoal. If a person, in the dark, put a slip of tin foil upon one of his eyes, and a piece of silver in his mouth, by causing these pieces to communicate, a faint flash will appear before his eyes. If a living frog or a fish, having a slip of tin foil pasted upon its back, be placed upon a piece of zinc, by forming a communication between the zinc and tin foil, the spasms of the muscles are excited. These and similar effects are produced by that modification of electricity which has been termed galvanising. Three different conductors, or what is termed a galvanic circle, are requisite to produce such effects. A piece of copper, a piece of flannel, moistened with water or acid, and a piece of zinc, laid one upon another, forms a circle; and if this circle be repeated a number of times, a galvanic pile or battery may be formed capable of giving a powerful shock. The most common and convenient form, however, of a battery, is found to be a trough of baked wood, three or four inches deep, and as many wide. In the sides are grooves, opposite to each other, into each of which is placed a double metallic plate, of zinc and copper soldered together, and the cells are then either filled with salt and water, or with a solution of nitrous acid and water.

By means of the galvanic agency, a variety of surprising effects are produced. Gun-powder, cotton, and other inflammable substances, have been inflamed—charcoal has been made to burn with a most brilliant, and beautiful white flame—water has been decomposed in its elementary parts,—metals have been melted and set on fire, fragments of diamond, charcoal, and plumbago, have been dispersed, as if they had been evaporated—platina, the hardest and the heaviest of metals, has been melted as readily as wax in the flame of a candle—the sapphire, quartz, magnesia, lime, and the firmest compounds in nature, have been made to enter into fusion. Its effects on the animal system are no less surprising. When applied to a fowl or a rabbit, immediately after life is extinct, it produces the most strange, and violent convulsions on the nervous and muscular system, as if the vital functions were again revived; and when applied to the human body after death, the stimulus has produced the most horrid contortions and grimaces in the muscles of the head and face; and the most rapid movements in the hands and feet.

The galvanic agency enables us to account for the following, among other facts:—Why porter has a different, and more pleasant taste, when drank out of a pewter vessel, than out of glass or earthen ware,—why a silver spoon is discolored, when used in eating eggs,—why the limbs of people under amputation, are sometimes convulsed by the application of the instruments,—why pure mercury is oxydised when amalgamated with tin,—why works of metal, which are soldered together, soon tarnish in the places

where the metals are joined,—and why the copper sheathing of ships, when fastened with iron nails, are soon corroded about the place of contact. In all these cases a galvanic circle is formed, which produces the effects. We have reason to believe, that, in combination with the discoveries which modern chemistry is daily unfolding, the agency of the fluids will enable us to carry the arts forward towards perfection, and to trace the secret causes of some of the most sublime phenomena of nature.

VIII. MAGNETISM.—This department of philosophy describes the phenomena, and the properties of the load-stone, or natural magnet. The natural magnet is a hard dark colored mineral body, and is usually found in iron mines. The following are some of its characteristic properties:—1. It attracts iron, and steel, and all substances which contain iron in its metallic state. 2. If a magnet be suspended by a thread, or nearly poised on a pivot, or placed on a piece of wood, and set to float in a basin of water, one end will constantly point nearly towards the north pole of the earth, and the other toward the south; and, hence, these parts of the magnet have been called the north and south poles. 3. When the north pole of one magnet is presented to the south pole of another, they will attract each other; but if the north pole of one be presented to the north pole of another, or a south pole to a south, they will repel each other. 4. A magnet placed in such a manner as to be entirely at liberty, inclines one of the poles to the horizon, and of course elevates the other above it. This property is called the dipping of the magnet. 5. Magnets do not point directly north and south; but in different parts of the world with a different declination eastward or westward of the north; it is also different at the same places at different times. In London, and in most places of Great Britain, the magnetic needle, at present, points about 24 degrees to the west of north. For more than 160 years it has been gradually declining from the north to the west; but seems of late to have begun its declination to the eastward. 6. Any magnet may be made to communicate the properties now mentioned, to any piece of iron and steel. For example, by gently rubbing a penknife with a magnet, it will be immediately invested with the property of attracting needles, or small pieces of iron and steel. 7. Heat weakens the power of a magnet, and the gradual addition of weight, increases the magnetic power. 8. The properties of the magnet are not affected either by the presence or the absence of air; and the magnetic attraction is not in the least diminished by the interposition of any bodies except iron. A magnet will equally affect the needle of a pocket compass, when a thick board is placed between them as when it is removed. It has lately been discovered, that the violet rays of the solar spectrum, when condensed with a convex glass, and made to pass along a piece of steel, have the power of communicating to it the magnetic virtue.

The cause which produces these singular properties of the magnet, has hitherto remained a mystery; but the knowledge of the polarity of the magnet has been applied to a most important practical purpose. By means of it, man has now acquired the dominion of the ocean, and has learned to trace his course through the pathless deep to every region of the globe. There can be little doubt that magnetism has an intimate connexion with electricity, galvanism, light, heat, and chemical action; and the discoveries which have been made lately, and the experiments which are now making by Morichini, Oersted, Abraham, Hansteen, Barlow, Beaufoy, and Scoresby, promise to throw some light on this mysterious agent, and on the phenomena of nature with which it is connected.—Dick.

Abuse of Memory.

We recommend to teachers and others, who are in the habit of requiring children to commit long pieces to memory, the opinion of Lord Bacon upon this subject.

"The powers of the memory," he observes, "without the help of writing, can do little towards the advancement of any useful science." He acknowledges that the memory may be disciplined to such a point, as to be able to perform very extraordinary feats. But on such feats he sets little value. The habits of his mind, he tells us, are such that he is not disposed highly to rate any accomplishment, however rare, which is of no practical use to mankind. As to these prodigious achievements of the memory, he ranks them with the exhibitions of rope dancers and tumblers. "The two performances," he says, "are of much the same sort. The one is an abuse of the powers of the body; the other is an abuse of the powers of the mind. Both may perhaps excite our wonder, but neither is entitled to our respect."

We should often have reason to be ashamed of our most brilliant actions, if the world could see the motives from which they spring.—Rochefoucault.

We do not know what is really good or bad fortune.—Rousseau. Our condition in this world is mixed. We all, in every state, have our sufferings, but of none is the condition so abject, that he may not find grounds, of consolation, and discern the merciful finger of Omnipotence, pointing out to him a place of rest, of happiness unmixed, of everlasting peace.

We seldom find persons whom we acknowledge to be possessed of good sense, except those who agree with us in opinion.—Rochefoucault. When such occasions do occur, our self-love always induces a decision in favor of their judgment.

Mr. Allen has reported a bill in assembly proposing a bounty of ten cts. per pound for cocoons, and of fifty cts. per pound upon sewing silk, produced from family labor.

FROM THE STEAM PRESS OF
PACKARD & VAN BENTHUYSEN.